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ABSTRACT

The second document in a curriculum series describes objectives from three units of a program to meet the needs of academically gifted elementary students in the area of reading, with emphasis on comprehension skills including critical and creative reading. Units have the following objectives: to identify the causes presented in a given selection, predict the effects, and establish a relationship; to identify similarities and differences to make a comparison and contrast relationship; and to identify the relationship between the major and minor premise and state whether the conclusion is a fallacy in reasoning. Provided for each objective are activities in the form of worksheets, transparencies, and gameboards. (SB)

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LANGUAGE ARTS

CAPABLE READER PROGRAM

VOL. I - PART 2

OBJECTIVES

FOR

UNITS A4 THROUGH B1

BULLETIN NO. 334

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A- 4

TABLE OF CONTENT

Page

Objective A-4 243

Cause Effect with Tangible Objects. 244

Procedure 245

    Tangible Objects 245

Cause & Effect Visually 246

    Diagram Actual Cause & Effect. 247
        Mobile. 249
        Game. 250
        Learning Center Activity. 251

Cause & Effect in Pairs of Sentences. 252

    Sentences. 253
        Worksheet 254
        Worksheet 255

Cause & Effect in Longer Selections 256

    Activities 257
        Worksheet 259
        Worksheet 260

Material To Develop Objective A-4 261

OBJECTIVE A - 4

Given a selection, the student will be able to identify the causes presented, predict the effects, and establish a relationship.

PURPOSE

The purpose of this unit is to identify the causes presented in a given selection, predict the effects, and establish a relationship.

One of the most effective ways of developing reasoning is through discussion in which the teacher makes a special contribution by asking questions to stimulate cause-and-effect reasoning. Cause-effect relationships may be developed by making sure the student understands the concept of cause-effect. After the student has gained this understanding, he then may see the relationship between cause and effect in one sentence, several sentences, or complex selections.

METHOD

The following objectives stated behaviorally will be the basis for the method involved in teaching cause-effect relationships:

I. To use the concept of cause-effect by working with tangible objects to gain an understanding of the concept of cause-effect.

II. To write out or diagram the actual cause and effect.

III. To listen to or read pairs of sentences to see if one is the cause of the other.

IV. To detect whether there are additional effects for a cause or additional causes for an effect after more than one sentence or paragraphs have been added.

Cause Effect with Tangible Objects

PROCEDURE

The development, or procedure, for each of the following objectives is as follows:

I. To use tangible objects to gain an understanding of the concept of cause-effect.

   A. The teacher fills a glass with water so that the water overflows. He then asks the students to explain what the water did. The students should respond that the water ran out of the glass onto the table. The teacher asks the class what caused the water to run out of the glass onto the table. The students respond that filling the glass with too much water caused the water to run out of the glass and onto the table. The students respond that filling the glass with too much water caused the water to run out of the glass and onto the table. The teacher reiterates that pouring too much water into the glass caused the water to run out of the glass and onto the table.

   B. The teacher blows on a mobile. He then asks the students to explain what the mobile is doing. The students should respond that the mobile is moving. The teacher then asks the students what caused the mobile to move. The students should respond that air or blowing on the mobile caused it to move. The teacher reiterates that blowing on a mobile caused it to move. The teacher should then explain that many things that happen daily, happen as a result of something else.

   C. Additional situations using tangible objects to assist in understanding cause-effect relationships which may be used are:

      1. Cause: Hitting the ball with a bat.
         Effect: The ball will fly through the air.
      2. Cause: Opening a window.
         Effect: The air becomes more pleasant (or colder) in the classroom.
      3. Cause: Pushing a desk from its intended position.
         Effect: The desks became out of line.
      4. Cause: Shutting off the lights.
         Effect: Students find it difficult to see.

   D. Students may work in pairs or groups to plan cause-effect relationships which may then be presented to the class. After their presentation they may ask their peers to state the cause and effect of their demonstration.

Cause

and

Effect

Visually

II. To write out or diagram the actual cause and effect.

A. The teacher may give the class several incidents. The class will then write the "cause" and "effect" on a piece of paper.

Example:

The teacher may say: "Football players start training during the summer to get in good physical condition for the fall season."

The child may write:

Cause: Football players start training.

Effect: To get in good physical condition for the fall season.

Other examples are:

1. The typist changed the typewriter ribbon for a darker copy.
2. Mr. Hammersmith clipped back his rose bushes to encourage blooming.
3. The astronauts wore space suits to protect their bodies against temperature and pressure changes.
4. To aid in the prevention of polio, innoculations are given.
5. Seeing her broken doll, Mary became very unhappy and began to cry.
6. Susan mailed her picture to her grandmother as a birthday surprise.
7. Paul Powers won an award for saving the life of a drowning man.
8. Doctors and nurses work round the clock to save lives of accident victims brought to the emergency room.
9. With the coming of winter, the leaves are quickly turning gold, red, and brown.
10. Mary and Bill are mailing invitations to their wedding.
11. The builder laid a concrete foundation for the Stevens' new home.
12. To provide for the safety of children crossing the intersection, patrol boys were stationed on each corner.
13. A special announcement was made over network television to warn viewers of possible tornadoes.
14. Eating a balanced diet is one way to prevent vitamin deficiency.
15. Roger Brown visits his dentist twice a year for a checkup.
16. Father brought wood and started a fire for the barbeque.
17. Sunbathing for too long a period of time can give one a severe sunburn.

B. Students may bracket the effect and then draw an arrow from the effect to the cause.

Example:

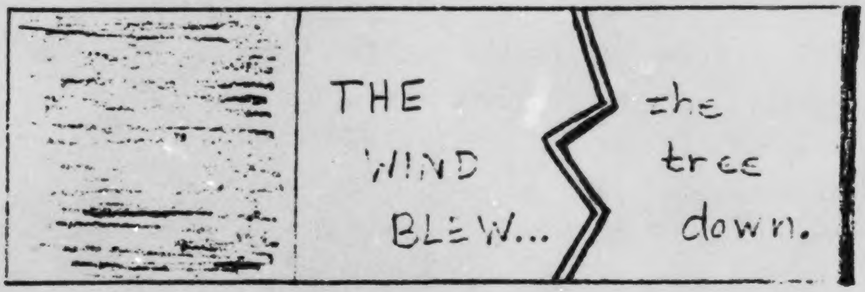
The hurricane-like winds (blew down the graceful pine tree.)

Other examples are:

1. The dog scratched because the mosquito bite itched.
2. A violent windstorm blew the roof from the house.
3. Sweat poured down the foreheads of the boys standing in the sun.
4. John Stevens was elected president by a majority vote.
5. The flue epidemic caused many people to miss several days of work.
6. Smearing occurred when water came in contact with the ink.
7. Flooding from heavy rains washed out the South Road.
8. Cries were heard from the crowd as the home team scored a win.
9. Two robins built a nest for their eggs.
10. Traffic stopped abruptly as the signal light turned red.
11. At a temperature above 72°, the air-conditioner will automatically turn on.
12. Stapling the sheets together will prevent possible loss.
13. She kept an accurate record of expenses for reimbursement purposes.
14. The boys sold boxes of cookies to earn money for their school.
15. Sandy's thirst made her lap eagerly at the bowl of cool water.
16. The sky began to darken as the sun sank in the west.
17. As lightning struck the dry pine tree, it burst into flames.
18. Many people drive to New Orleans to see the Mardi Gras.
19. Watching the lions devour their meat can make one lose one's appetite.
20. When the cat crept from behind the carton, the dog ran after her.
21. If it is sunny and warm, the boys will go fishing tomorrow.
22. Mark worked very hard writing his report about Heart Diseases because he wanted to get an A.

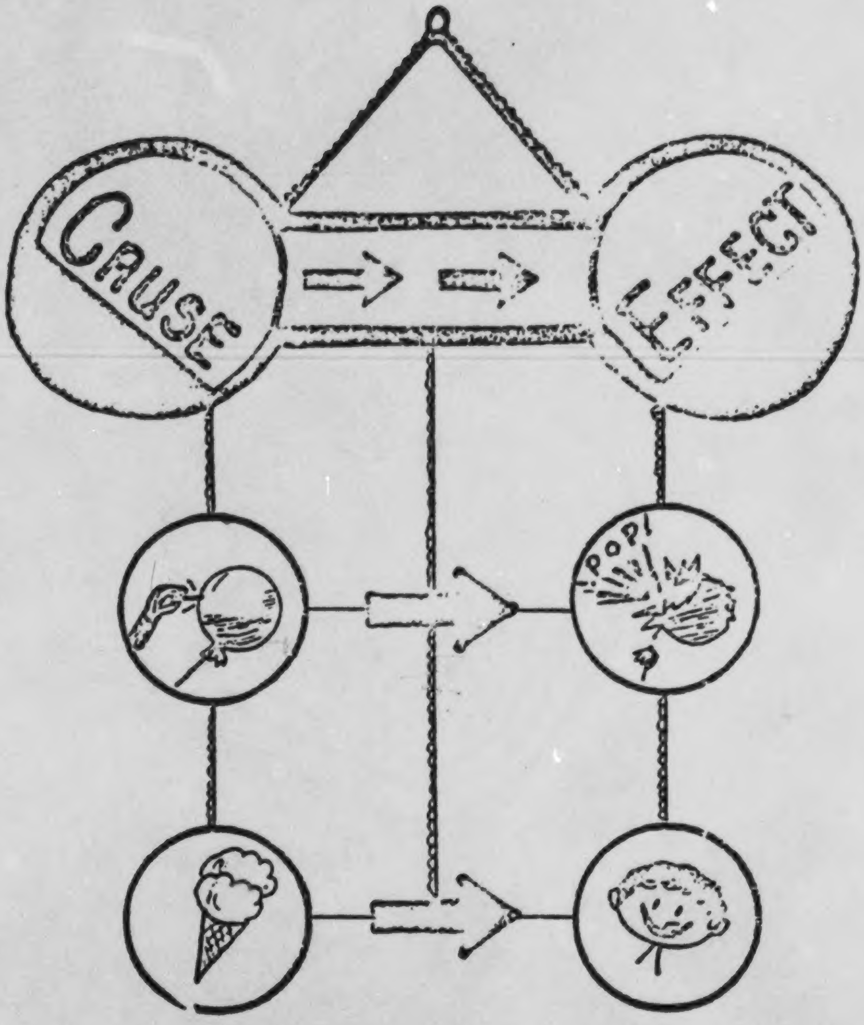
C. Some additional activities for reinforcing cause and effect are the following examples:

Puzzle


THE WIND BLEW...
the tree down.

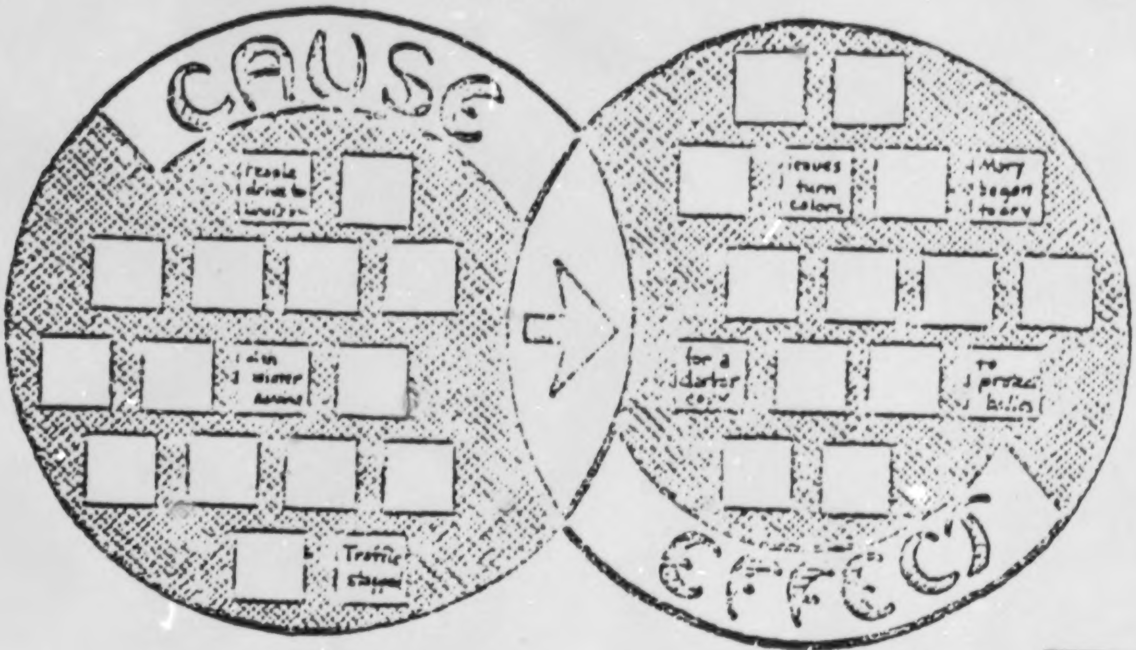
The class may make puzzles and exchange with a partner.

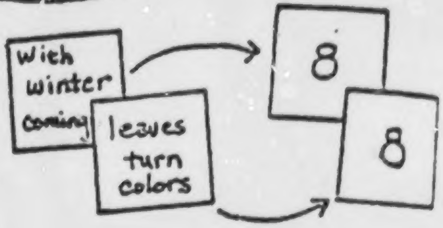
MOBILE


CAUSE
EFFECT
POP!

The class may illustrate cause and effect through the use of a mobile.

GAME


CAUSE
leaves turn colors
Mary began to cry
Traffic stopped
EFFECT

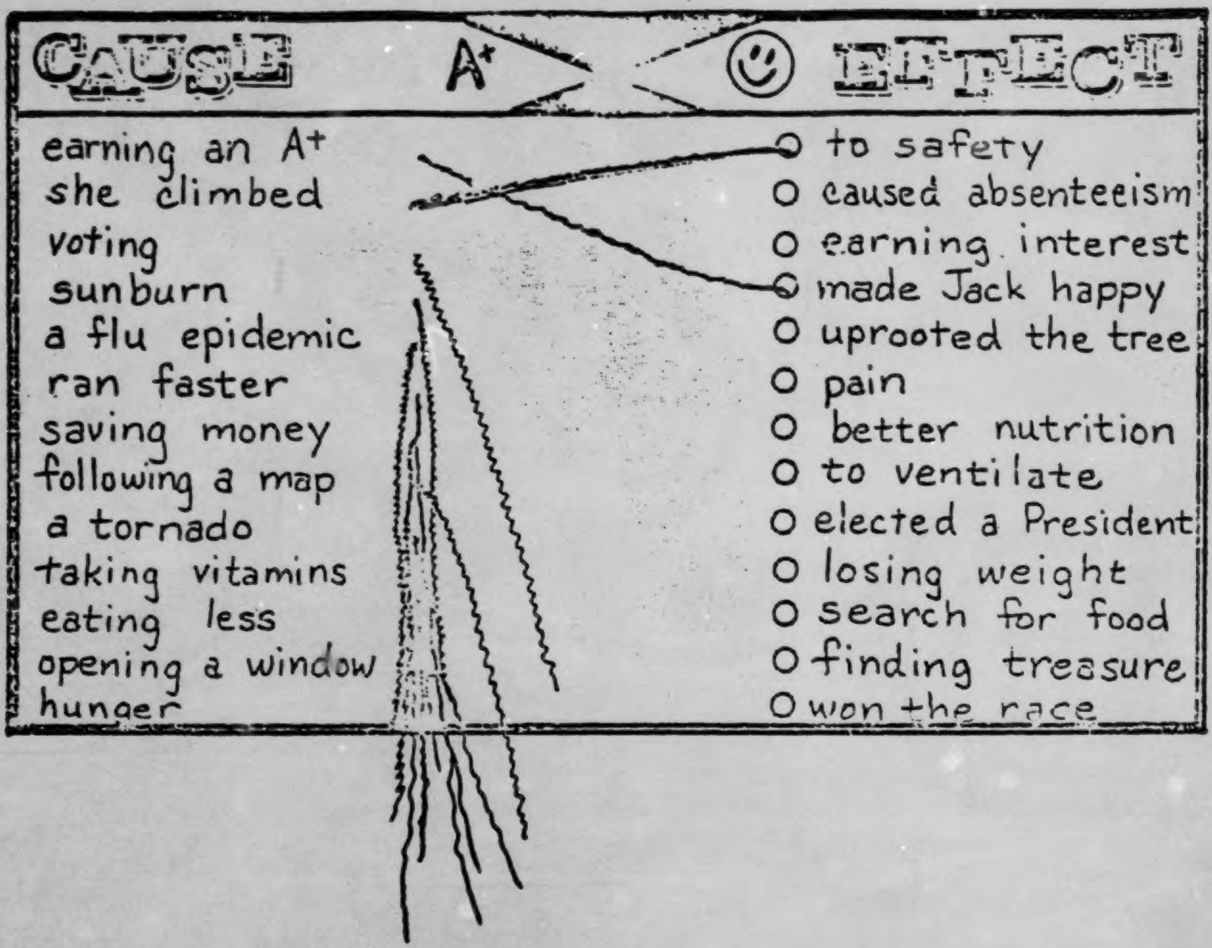

With winter coming
leaves turn colors
8
8

Materials: 2 - 18" diameter circles cut from poster board (use different colors)
30 - 2 x 2" squares (of one color)
30 - 2 x 2" squares (of another color)

Directions: Glue the two circles with a 3" overlap as shown. Illustrate the board showing boxes where the cards will be placed face-down for play. It is suggested that the word "Cause" be lettered using a color corresponding to the color of the "Cause" playing cards. Do the same for the "Effect" lettering and cards. Using the list of sentences given for Cause and Effect in IIA and IIB sections, letter the "cause" on the appropriately colored-card and the "effect" on the other colored card. Make the game self-correcting by writing the same number on the backs of the two cards which form a pair as illustrated above. Play begins by placing card face-down on each space. In turn, the players turn either a cause or an effect face up.

If on their turn, they spot a cause-effect pair, they read the cards, flip to check and score the points indicated by the numbers.

LEARNING CENTER ACTIVITY


CAUSE
A+
EFFECT
earning an A+
she climbed
voting
sunburn
a flu epidemic
ran faster
saving money
following a map
a tornado
taking vitamins
eating less
opening a window
hunger
to safety
caused absenteeism
earning interest
made Jack happy
uprooted the tree
pain
better nutrition
to ventilate
elected a President
losing weight
search for food
finding treasure
won the race

When constructing, cut the answer openings with a razor blade or exacto knife. Yarns are then inserted in the openings to indicate answers.

Cause - Effect
in
Pairs of
Sentences

III. To listen to or read pairs of sentences to see if one is the cause of the other.

A. The teacher may put the sets of sentences on the board. The students read each set and decide if the first sentence would cause the second sentence in each set to happen.

Examples are:

1. A. The bird was a chicadee.
   B. He scrambled out of the nest.

2. A. Sandy has a virus.
   B. She is absent from school today.

3. A. Phillip missed the bus.
   B. He was late for school today.

4. A. The mailman is six feet tall.
   B. He picks up our letters.

5. A. Joyce is eleven years old.
   B. She likes to do acrobatics.

Answers: 1. no; 2. yes; 3. yes; 4. no; 5. no.

B. The students are divided into two teams. Each student on a team is given an A sentence card. The teacher places the B sentence cards along the board or wall that the two teams are facing. The first student from team one reads his sentence card aloud. He then goes to the board and is given five seconds to find the sentence that does or does not result from the action expressed on his card.

A Sentences:	B Sentences:
The egg fell off the table.	It cracked.
She stepped in the mud.	Her shoes were bright red.
She licked her finger.	She got out the bandages.
The gas tank was empty.	He stopped for gas.
Bill was thirsty.	He drank some water.

C. W.D.R.S.D. offers the following worksheets which the students may do independently.

DIRECTIONS: Read each set of sentences. Then decide whether sentence A would cause sentence B to happen. Mark your answer by filling in the circle under Yes or No.

Example	Would A cause B to happen?	
	Yes	No
A. John is sick. B. He is four years old.	○	○

	Would A cause B to happen?	
	Yes	No
1. A. Karl bought new skates. B. He went swimming.	○	○
2. A. The forest was on fire. B. The animals ran out of the woods.	○	○
3. A. The brake let go. B. The wagon rolled down the hill.	○	○
4. A. Martha is afraid of the dark. B. Martha sat in the water.	○	○
5. A. He painted the boat. B. The boat sank.	○	○
6. A. Heavy winds knocked down a bridge. B. There is a long line of cars on the freeway just before the bridge.	○	○
7. A. Eric had his picture taken. B. He has a new tooth.	○	○
8. A. The time ran out on the meter. B. The policeman is putting a ticket on Joe's car.	○	○
9. A. The children went to the zoo. B. The bear was gone.	○	○

The Wisconsin Design for Reading Skill Development (Developmental Edition)
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Would A cause B to happen?

		Yes	No
10.	A. Mary rode her bike to school. B. She is in the third grade.	○	○
11.	A. The shore was muddy. B. The river ran fast.	○	○
12.	A. Sue spilled her milk. B. Mother is washing the floor.	○	○
13.	A. The snowman was under a tree. B. He melted.	○	○
14.	A. Phil tripped over a log. B. He lost the race.	○	○
15.	A. The horse held his tail high. B. Mary fell off him.	○	○
16.	A. The trunk was open. B. The car was hard to start.	○	○
17.	A. The school bell rang. B. The children entered the building.	○	○
18.	A. The water was deep. B. The boat turned over.	○	○
19.	A. Mother closed the drapes. B. The window broke.	○	○
20.	A. The cat likes to eat meat. B. The dog is chasing the cat.	○	○

Answers: Example, no; 1. no; 2. yes; 3. yes; 4. no; 5. no; 6. yes; 7. no; 8. yes; 9. no; 10. no; 11. no; 12. yes; 13. no; 14. yes; 15. no; 16. no; 17. yes; 18. no; 19. no; 20. no.

Cause
and
Effect
in
Longer
Selections

IV. To detect whether there are additional effects for a cause or additional causes for an effect after more than one sentence or paragraphs have been added.

A. The teacher may have students add a sentence to his, thus creating a cause-effect relationship.

An example of the teacher's sentence may be:

"In 1846, Elias Howe patented a sewing machine."

The student may add:

"The American clothing industry grew swiftly after that."

In any instance a defense or explanation of the student's reason for thinking the relationship of cause and effect should be given.

B. The newspaper may serve as a source for perceiving cause and effect relationships.

An example of a news item may be:

"A plan to group and racially balance five schools suffered a serious setback last night when both black and white parents attacked it."

The students would then give their feelings as to effects on the basis of what is found in the article.

A way to diagram this would be:

What Happened?	Effects
News item: A plan to group and racially balance five schools suffered a serious setback last night when both black and white parents attacked it. **News item:** A long fight for a change in Senate rules to make it easier to choke off filibusters ended in failure Thursday. **News item:** Declaring that the state's tough marijuana laws have not worked, the president of the Senate joined the state's prosecuting attorneys Tuesday in urging a reduction in the penalty for first-time possession of marijuana.	(Students would fill in their answers on this side on the basis of what else is found in the article and on the basis of the results of their own thinking.)

C. Current local, state or national political decisions and events can be discussed or read. After engaging in background research, students may perceive their short and long-term cause-effect relationships.

Examples:

Effects of a strike.

Effects of the Panama Canal decision.

Effects of gun restrictions.

Effects of community urban renewal.

D. In longer selections, authors may supply clue words in some places and leave them out in others. In addition, the statements about cause and effect may be separated from each other. That may make it somewhat harder to see the relation between them.

The selection below will be a guide for you in the exercise that follows it.

> A constant danger in the mines is the cave-in. A man who works in the mines develops the habit of listening for faint, creaking sounds which may be a serious warning.
>
> Not long ago, a miner who was sitting in a movie theater suddenly jumped out of his seat, shouted a warning, and ran for the nearest exit.

QUESTIONS:

1. Why does a miner develop the habit of listening sharply?
   (Faint noises may be a warning of the start of a cave-in.)
2. Why do you think the miner leaped from his seat?
   (The selection does not say, but you infer (or guess) that he heard the same faint, creaking sounds which indicate the beginning of a cave-in at a mine.)
3. Can you predict what probably happened in the theater after that?
   (Predictions require good guessing. We may infer that the miner's judgment was correct and that the cave-in occurred soon after. How soon? Very soon, because the miner ran for the nearest exit. He certainly expected the crash to come quickly.)
4. It will now be interesting for you to follow another trend of thought which will bring out another set of cause-effect relationships. Could the miner, who may not have been in a mine for some years, have only imagined that he heard the creaking sound? Might he have been escorted out of the theater by a policeman? Might some quick-witted person have jumped to the stage and quieted the audience by assuring them there was no danger?

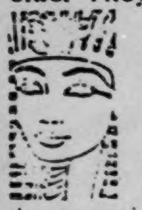
E. The following are some additional worksheets that may be used:

This article is about some unusual Egyptian customs. Read the article carefully and then answer the questions below on another piece of paper.

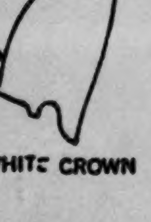
1. Why did the women wear yellow make-up?
2. Why did both men and women wear eye make-up?
3. Why did the Pharaoh create a Double Crown?
4. When was a beard worn?
5. Why doesn't the Great Sphinx have a beard now?
6. Why did Egyptians wear wigs?

The Egyptians are a dark-skinned people. During the time of the Egyptian Empire, it was important for a woman to be a lighter shade than the gentlemen of her class and the slaves. If she were not naturally fairer, she used a lemon make-up to give the appearance of being the correct shade.

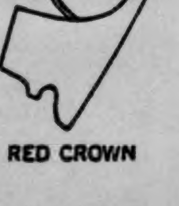
Both men and women used make-up heavily. They rouged their lips and shaded their eyes blue. They made their eyes seem darker and larger by putting a black cosmetic completely around their eyes and extending the line far out to the side. They believed the make-up had magical powers. Some even believed that wearing it would restore failing eyesight. There was a more practical reason for wearing make-up—it was also a germ killer. It is believed that it was worn to ward off eye infections that were common in Egypt.



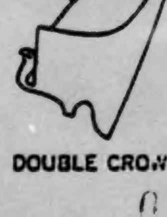
Headdresses were worn by the royal family. The King of Upper Egypt wore the White Crown with a symbol of a hooded cobra in front. The King of Lower Egypt wore a Red Crown. When the two territories were united, the Pharaoh combined the two crowns into the Double Crown. This showed that neither region was stronger. Any member of the royal family could wear the hooded cobra symbol.



WHITE CROWN

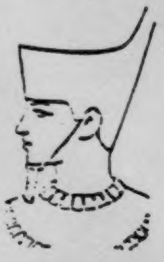


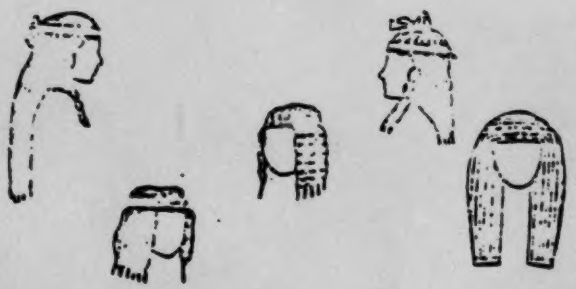
RED CROWN



DOUBLE CROWN

Few men wore natural beards, since bronze shaving pieces were widely used at that time. If a false beard were worn, it usually extended about six inches from the chin in a spiral fashion. It was worn primarily for formal occasions, so it was detachable. It could be attached to the wig, or hooked around the ears by a strap. Some men had a very narrow band of whiskers extending along the jawbone from ear to ear. They could attach the false beard to these whiskers. Originally the Great Sphinx had a beard, but it has completely worn off over the centuries. Many of the mummy cases have carvings that show men with beards.





Originally wigs were worn only by the Pharaoh and members of the court on formal occasions. Gradually wigs became so fashionable that anyone who could afford one, wore one. Heavy black hair was much admired by the Egyptians, so those whose hair was graying or falling out wore a wig all the time. The wigs were extremely hot and heavy. The priests, however, plucked the hair out of their heads as a purification rite and wore no wig at all.

Read the article below and then answer the questions.

The source of a writer's idea for a book is an interesting topic to pursue. Many writers keep a notebook in which they write the experiences that stir their imaginative minds. A heroic football player's expression or the strange feeling one gets when one has said something wrong are the sort of observations that may be added to a writer's notebook.

Miss Coolidge's idea for "The Little Pharaoh" came when she saw the detail of the lion hunt which was on a chest in King Tutankhamen's tomb and is also used as the illustration for the story in *Dimensions*. This fixed in her mind the episode about which she built her plot and characters and the period in which the story would take place.

Lewis Carroll, the author of *Alice's Adventures in Wonderland*, was a mathematics teacher at a university in England. An administrator of the college had three young children, whom Carroll often took on picnics. On these excursions he told stories to delight the children. One day he told the story of Alice which fascinated one of the little girls so much that she begged him to write it down. Eventually he wrote it, illustrated it, and gave it to her as a present.

Laura Ingalls Wilder, author of *The Long Winter*, received the inspiration for her books from experiences that happened to her family during her pioneer childhood. The places of which she writes exist or did exist at one time. Garth Williams, illustrator for her books, followed the same route Miss Wilder's family did so that the illustrations would be authentic.

Shadow of a Bull, by Maia Wojciechowska,[1] received the Newbery Award[2] for the best children's book for 1965. The idea for the story came after a scene she saw in southern Spain. The son of a famous bullfighter, who had lost his life in the ring, had come to be worshiped by the people in the small Spanish town. The thought that this young boy might be forced to follow in his father's footsteps disturbed her so much that in time the thought developed into a story plot and a book.

Newbery Award winner Elizabeth George Speare, author of *The Witch of Blackbird Pond*, read Connecticut history, hoping to find the right incident for a story. Instead her mind began to create characters who might have lived at a certain time, and a story grew around them. From this study of a specific period, she developed her story of Puritan New England.

Real experiences usually are the source from which most ideas spring. After the original idea comes a great deal of hard work. It is then the author must develop the story, write, rewrite, and polish.

1. The detail of the lion hunt helped Miss Coolidge write her story because ______________________________

____

2. Lewis Carroll wrote *Alice's Adventures in Wonderland* because ______________________________

____

3. Miss Wilder's books are authentic because ______________________________

____

4. The scene Maia Wojciechowska saw in Spain disturbed her because ______________________________

____

5. Elizabeth George Speare read Connecticut history because ______________________________

____

MATERIAL TO DEVELOP OBJECTIVE A-4

Basal Textbooks: Economy, LINESCAPES,
"Sasquatch-Creature of The North", pp. 8-12.
Laidlaw, OCEANS AND ORBITS,
"The Hydronauts", pp. 44-65.
Scott Foresman, DIMENSIONS,
"The Lion in The Gateway", pp. 399-411.

Workbooks: BE A BETTER READER I, pp. 40-41, 90-91, 102-103,
116-117, 132-133.
DIMENSIONS SKILLBOOK, pp. 172-173.
Economy, THOUGHTVAULT, pp. 11-14, 127.
READING AND ACHIEVING, pp. 5-6, 7-8, 19-20, 25-28, 66,
85-88, 93-98.

Study Sheets: TASKMASTER, 7^2, pp. 13-16, 23.

Additional Activities:

A-5

TABLE OF CONTENT

Page

Objective A-5 262

Tangible Objects. 263

Procedure 264

Words, Animals, People, Things. 265
    Worksheet 1. 267
    Worksheet 2. 269

Phrases in Figurative Language. 275

Sentences 290

Paragraph 300

Tone - Mood Characters Setting Facts Details. 307
    Worksheet. 311
    Worksheet. 312
    Worksheet - Activity 1 313
    Worksheet. 314
    Worksheet. 315
    Worksheet. 316
    Worksheet. 317
    Worksheet. 318
    Worksheet. 319

Synonyms and Antonyms List. 323-334

Word Relationships. 335-336

Related Items 337-338

OBJECTIVE A - 5

Given a selection, the student will be able to identify similarities and differences to make a comparison and contrast relationship.

PURPOSE

Students are confronted with similarities and differences in their reading and environment every day. They must react to synonyms, antonyms, and figurative language as stated by peers, teachers, or in material read. Through a study of the literal and implied meanings of these words and phrases, it is believed students can more intelligently cope in their world. Knowledge of clue words which may signal a comparison or contrast relationship will aid students to more easily comprehend and interpret written material. It is hoped that this detailed and comprehensive study of comparisons and contrasts will enable them to be more sensitive when reading literature selections and to gain improved reading comprehension in the areas of science and social studies.

METHOD

The method involved in teaching the comparison and contrast relationship requires a reader's interpretation of the material, as to similarities and differences.

The hierarchy of skills involved in teaching comparison and contrast will be as follows:

I. Students will manipulate or visualize tangible objects in order to find a comparison and contrast of the objects.
II. Students will compare and contrast words, animals, people and things.
III. Students will compare and contrast literal and implied meanings and phrases used in figurative language - including similes, metaphors and euphenisms.
IV. Students will compare and contrast sentences regarding their literal or implied relationship as indicated by certain clue words.
V. Students will learn how a paragraph is constructed to show a comparison-contrast relationship.
VI. Students will compare and contrast larger selections as to the tone or mood of the selection, the characters, setting, facts, and details presented.

Tangible Objects

PROCEDURE

I. Students will manipulate or visualize tangible objects in order to find a comparison and contrast of the objects.

   A. To students: We unconsciously look for similarities and differences every day. Let's try it now. Look around the classroom and find two persons who look somewhat alike. Think about what makes them look alike. Do they have the same color hair? Are they the same height?

      1. List the similarities between these two people. (Answers will vary.)

   B. To students: Now study these two persons more closely. There are many differences between these two people. What are they?

      1. List the differences between these two people. (Answers will vary.)

   C. An additional activity may be:

      1. Compare and contrast additional tangible objects in the classroom. Possibilities are: basketball and baseball; several live animals in the classroom; two model airplanes; the condition of two desks.

Words,
Animals.
People,
Things

II. Students will compare and contrast words, animals, people and things.

A. Comparing and contrasting of words: Students will expand their vocabulary through studying words with similar (synonyms) and different (antonyms) meanings.

1. Refer to list 1 (Synonyms and Antonyms) at the end of this unit for an extended list of similar and different meanings of a specific word.
2. The teacher or students may select words for which they would like to learn additional similar meanings.
3. Students may complete Worksheet 1 dealing with similar meanings.

Answer Key:

1.) modern: latest, recent, new
2.) chief: head, leader, principal
3.) route: road, path, way
4.) collect: gather, assemble, accumulate
5.) hesitate: pause, linger, falter
6.) admire: esteem, approve, respect
7.) wander: stray, ramble, roam
8.) mass: bulk, lump, heap
9.) force: energy, power, strength
10.) serve: aid, help, assist
11.) fertile: productive, rich, fruitful
12.) urge: persuade, stimulate, plead
13.) difficult: trying, hard, toilsom
14.) original: initial, first, beginning
15.) hurt: harm, injure, damage
16.) make: build, construct, manufacture

WORKSHEET 1

WORKING WITH WORDS HAVING SIMILAR MEANINGS

In each of the groups below there is one key word with three spaces to the right on which additional words may be written. The additional words for each group are to be words which have meanings somewhat like the key word.

Choose the three additional words for each key word from the lists at the bottom of the page. It will be helpful for you to draw a line through each of the words you have chosen after you have written them on the correct answer lines.

1. modern ________ ________ ________
2. chief ________ ________ ________
3. route ________ ________ ________
4. collect ________ ________ ________
5. hesitate ________ ________ ________
6. admire ________ ________ ________
7. wander ________ ________ ________
8. mass ________ ________ ________
9. force ________ ________ ________
10. serve ________ ________ ________
11. fertile ________ ________ ________
12. urge ________ ________ ________
13. difficult ________ ________ ________
14. original ________ ________ ________
15. hurt ________ ________ ________
16. make ________ ________ ________

gather
help
persuade
hard
head
energy
latest
respect

beginning
road
recent
falter
power
fruitful
bulk
assist

ramble
roam
first
initial
way
build
harm
path

heap
aid
assemble
damage
productive
stray
pause
construct

esteem
plead
trying
approve
principal
manufacture
new
accumulate

linger
stimulate
injure
rich
leader
lump
strength
toilsome

4. The teacher or students may select words for which they would like to learn opposite, or contrasting, meanings. These words may be then used in sentences, paragraphs, or stories.
5. The following reinforcement game may be played: Select two teams. A team member attempts to throw a ball into the wastepaper basket. If he hits the basket, he may ask his own team to give a contrasting meaning of an easy word. If he misses the basket, he asks the opposing team to give the contrasting meaning of a difficult word. Next, a member from the opposite team follows the same procedure. The team with the highest number of points wins.
6. Students may complete Worksheet 2 dealing with words having contrasting meanings.

Answer Key:

1.) exit-entrance
2.) fertile-barren
3.) crude-refined
4.) succeed-fail
5.) stern-mild
6.) clumsy-graceful
7.) rude-polite
8.) moist-dry
9.) confusion-order
10.) entire-partial
11.) attic-cellar
12.) narrow-wide
13.) separate-together
14.) morning-evening
15.) correct-wrong
16.) stupid-smart
17.) difficult-easy
18.) complex-simple
19.) vertical-horizontal
20.) real-imaginary
21.) coarse-fine
22.) bold-timid
23.) latitude-longitude
24.) expensive-cheap
25.) calm-disturbed
26.) conserve-waste
27.) distant-near
28.) swift-slow
29.) admit-deny
30.) strange-familiar
31.) victory-defeat
32.) powerful-weak
33.) fresh-stale
34.) increase-decrease
35.) opposite-alike
36.) unite-divide
37.) plentiful-scarce
38.) first-last
39.) long-short
40.) forget-remember

W

WORKSHEET 2

WORKING WITH WORDS HAVING CONTRASTING MEANINGS

Below you will find a list of 40 words. To the right of each word there is a line. On this line you are to write a word which is opposite or nearly opposite in meaning to the printed word at the left. Choose the correct word from the list of words **on the next page.**

The word that has a contrast in meaning to the first word has been written for you.

1. exit [illegible]
2. fertile ________
3. crude ________
4. succeed ________
5. stern ________
6. clumsy ________
7. rude ________
8. moist ________
9. confusion ________
10. entire ________
11. attic ________
12. narrow ________
13. separate ________
14. morning ________
15. correct ________
16. stupid ________
17. difficult ________
18. complex ________
19. vertical ________
20. real ________
21. coarse ________
22. bold ________
23. latitude ________
24. expensive ________
25. calm ________
26. conserve ________
27. distant ________
28. swift ________
29. admit ________
30. strange ________
31. victory ________
32. powerful ________
33. fresh ________
34. increase ________
35. opposite ________
36. unite ________
37. plentiful ________
38. first ________
39. long ________
40. forget ________

W

timid
fail
waste
fine
longitude
wrong
familiar
polite
dry
refined

together
weak
partial
entrance
mild
stale
order
imaginary
remember
wide

graceful
easy
divide
short
smart
horizontal
barren
cellar
deny
cheap

slow
scarce
last
decrease
alike
simple
evening
near
disturbed
defeat

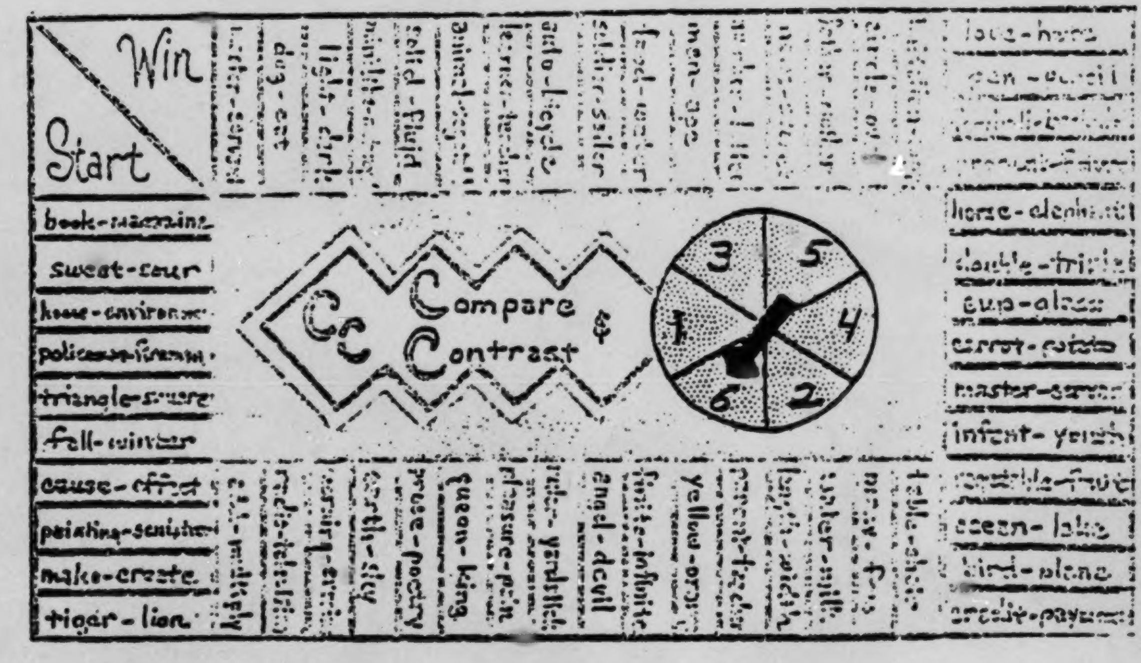
7. Blackboard exercise: Give vocabulary cards to each student for which a similar or opposite meaning has been written on the blackboard. Students then masktape their vocabulary word to the relationship they believe to be correct. When it is another students turn, he may change the vocabulary card of any previous word which he believes to be incorrect.

   After each student has had a turn, all may look in their dictionary to further determine comparisons of which they still are unsure. If they determine a vocabulary card needs changing, they may go to the blackboard and change the card.

8. Double Match: On the blackboard, or worksheet, make three columns consisting of KEY, SYNONYM, and ANTONYM. Each Key Word in column 1 can be matched with a synonym in the second column, and an antonym in column 3.

   Students will number their papers. By each number, they will write the Key Word, and select from the list the proper synonym and its antonym.

9. Students will make a comparison and contrast of word pairs through a game or blackboard activity.


Win
Start
dog-cat
light-dark
solid-fluid
auto-bicycle
soldier-sailor
men-ape
pen-pencil
horse-elephant
double-triple
cup-glass
carrot-potato
master-servant
infant-youth
ocean-lake
bird-plane
book-magazine
sweet-sour
triangle-square
fall-winter
cause-effect
painting-sculpture
make-create
tiger-lion
earth-sky
prose-poetry
queen-king
pleasure-pain
ruler-yardstick
angel-devil
finite-infinite
yellow-orange
water-milk
table-chair
CC
Compare &
Contrast
3
5
1
4
6
2

Materials needed: 18 x 28" piece of poster board
4" spinner arrow
brass fastener

Directions: Illustrate the game board as pictured on the previous page. (Do not attach the spinner until after the base board has been covered with contact paper for protection.) Attach the spinner using a brass fastener. Using buttons or any other type of place marker, each player begins on "Start". In turn, each player spins the Spinner and moves the designated number of spaces on the board. It is the space he stops on that he must respond to. For example, if the player spins 5, he moves five spaces to "triangle-square". He must then respond by giving three ways in which a triangle and square are alike as well as three ways in which they differ. The other players are to listen carefully to the responses made - if they identify an error, the player must move back to his previous position. Play continues until one of the players reaches "Win".

VARIATION: These above words may be used as a blackboard activity. The students state three ways in which the two word pairs are alike, as well as three ways they differ.

B. Comparing and contrasting of animals, people or things.

1. Further understanding of comparisons and contrasts may be elicited by asking questions such as the following:
    a. Which is shorter, your thumb or your foot?
    b. Which is thicker, a sandwich or a cracker?
    c. which is faster, a train or an airplane?
    d. For girls - Whom would you prefer for a husband? Robert Redford or King Arthur? Why?
    e. Which sports personality would you prefer to meet? O.J. Simpson or Mohammed Ali? Why?
    f. Where would you prefer to live in the United States? Los Angeles, California or Beloit, Wisconsin? Why?
    g. Compare the earth and the moon as an idea base for astronomical observations.
    h. What is the difference between a "young river" and an "old river" in terms of erosion features?
2. Students may make a chart comparing two animals, people, or plants about which they have read. Reference books may be used to complete the chart.

The porcupine and the raccoon may be compared. To gain a better understanding of compare and contrast and how it will be used in this unit, three charts may wish to be used with the following headings.

a. Similarity Comparisons of the Porcupine and Raccoon

b. Contrasts of the Porcupine and the Raccoon

c. Comparison of the Porcupine and the Raccoon
(In this chart, they would list only the most significant similarities and differences that they noted on the two prior charts.)

Similarity Comparisons of the Porcupine and the Raccoon

	Porcupine	Raccoon
1. Appearance		
2. Kind of home		
3. Food		
4. Means of protection		
5. Habits		
6. Young		
7. Size		
8. Hibernation		
9. Usefulness		
10. Where found		

NOTE: WHEN THE WORD COMPARE IS USED ALONG IN CONTEXT, IT WILL MEAN THAT THE STUDENT IS TO FIND SIMILARITIES AND DIFFERENCES. WHEN THE STUDENT IS ASKED TO COMPARE AND CONTRAST, COMPARE WILL MEAN THAT THE STUDENT IS TO FIND THE LIKENESSES OR SIMILARITIES. CONTRAST WILL MEAN THAT THE STUDENT IS TO FIND THE DIFFERENCES.

3. Students should understand that comparison and contrast always involves specifying those detailed characteristics which illustrate similarity and difference between two or more objects, people, animals, authors, books, news reports, eye-witness statements, viewpoints, etc.

   a. Students may make a comparison and contrast of the bicycle and auto.

      Similarities: wheels
      seats
      transportation
      reflectors, etc.

Differences: number of passengers
power source
number of wheels
types of seats
open versus enclosed, etc.

b. A student may pantomime an activity. Two students may volunteer to give eye-witness reports of what they saw. The remainder of the class may write a comparison and contrast of the eye-witness statements of the two students regarding the pantomime.

c. Students may make a chart comparing "Rules We Live By". Three categories that may be compared are: At Home, At School, Other Places.

Phrases
in
Figurative
Language

III. Students will compare and contrast literal and implied meanings of phrases used in figurative language, - including similes, metaphors and euphenisms.

A. Definition of figurative language: When a word is used in a ordinary way, it often carries a literal meaning. When the word is used to mean something other than what it ordinarily means, it has a figurative meaning. Words or phrases used in a figurative sense are called figures of speech. A figure of speech is a picturesque, imaginative language used to heighten effect by comparing or identifying a particular thing with another, more familiar thing. All figures of speech have the same purpose - to make what is said more vivid than a literal expression would do.

B. Give an example of picturesque speech in context. Have the students interpret the picturesque speech through multiple-choice alternates. Discuss the correct meaning.

Example:

"You can never trust him. He's a wolf in sheep's clothing."

This means: He howls like a wolf, or
He wears woolen clothes, or
He looks like a wolf, but he dresses well, or
He is mean and cunning, but he pretends to be meak and innocent, like a sheep, or
He eats like a wolf, but doesn't get any spots on his clothing.

Example:

(Literal) That fullback is much bigger than the halfback.
(Figurative) That fullback was a giant beside the halfback.

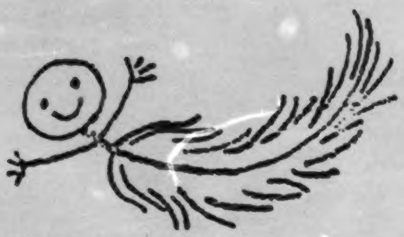
1. In which sentence is the comparison between two nouns literal?
2. Why is the comparison figurative in the second sentence?
   (Because the fullback is made to appear like something else.)
   (By comparing the fullback to a giant, the size of the fullback is exaggerated for effect.)

C. Similes

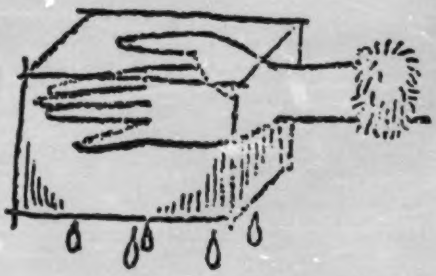
1. Definition of a simile: A simile compares two unlike objects or situations that are alike in some respect. A simile specifically states that something is like another by using such linking words as seemed, like, as if. Similes help us illustrate our thoughts and ideas with references to external things such as persons, objects, nature.

2. Use of cue words, like and as: Writers often make their meaning clear through comparisons. The two things being compared may seem at first glance completely unlike. In comparing them, the writer is saying that they are alike in some one way. In some comparisons the writer tells you in what way the two things are alike. In others he asks the reader to figure out the likeness - to read between the lines. You can see this difference in these two sentences:

I was so gay that I felt as light as a feather.



My hands were like ice.



If you read the first sentence literally, it does not make sense. No one ever weighs as little as a feather. But sometimes when a person is gay, he *feels* as though he has no weight. The second sentence is not exactly true either, but it has meaning for the reader.

Clearly, it is important to know when a writer is making an accurate, serious statement and when he is merely making a comparison. The words *as* and *like* are clues to comparisons. When you see them, you know that the writer may be making a comparison.

In the following sentence, you can see the clue word, and the writer tells you in what way the plane seemed like a leaf.

The damaged plane fell gradually, *like* a fluttering leaf.

Did you get a picture of that fall? Did you see the plane looking something like a leaf and falling a little at a time? And did you notice the cue word *like*? The sentence compared *plane* to *leaf* because both were *fluttering*.

3. Examples of similes which may be used for classroom discussion are:

   a. Weighed down with its heavy load of fuel, the plane felt clumsy, like a duck with clipped wings.

      1.) What key words told you this is a simile? (like)

      2.) What is the literal meaning of the sentence? (The plane was more difficult to fly because of its heavy load of fuel.)

      3.) What mental image do you see of the plane as a result of the use of figurative language? (A large plane-like duck in the sky attempting to fly.)

   b. The spy was cornered like a rat. (What is the man directly compared to?)

   c. The ship, a fragment detached from the earth, went on lonely and swift like a small planet.

   d. John's hound dog woke up bristling like a hairbrush.

   e. The Pawnees were peeking from behind trees, eyes bulging like hard-boiled eggs.

   f. His voice clipped the consonant sounds like ax bites in an oak tree.

   g. Day after day, day after day,
      We stuck, nor breath nor motion;
      As idle as a painted ship
      Upon a painted ocean.

      (Although the reader is not assured of a precise meaning, comparison clues are useful when known words or ideas are matched with the unknown language unit. What word is defined in this simile?) (idle)

   h. Simile is a favorite device of the poet. Note the following examples:

      1.) She walks in beauty like the night. - Byron

      2.) And what is so rare as a day in June? - Lowell

      3.) Apollo came like the night. - Homer

      4.) O my love is like a red, red rose. - Burns

      5.) Love deep as the sea as a rose must wither. - Swinburne

4. In each comparison, try to see the two things that are compared, and find in what way they are compared.

   Directions: Below each group of sentences there is a list of words and phrases. Choose the one that best explains the comparison in each sentence. The answer for the first sentence is given.

A

1. Far down below us, the automobiles looked like ants crawling along the pavement. (small and crawling)
2. The jet engines shot the plane up into the clouds like a bullet.
3. The July wind scorched our faces like a blast from a furnace.
4. The engine purred quietly like a contented cat.

shot upward fast
very hot
small and crawling
soft, rhythmical sound

B

1. Her teeth chattered in the cold like typewriter keys.
2. His mind went around like a spinning top.
3. The sailor's weather-beaten face was as tanned as a sheet of leather.
4. The road looked like a twisting ribbon in the moonlight.

curved
had a clicking sound
brown
was whirling

5. Can you tell when comparisons sound sensible? In this exercise nine sentences are started in the left-hand column. In the column at the right, there are phrases to complete the sentences.

Directions: Number your paper 1-9. Choose the phrase that best completes each comparison. Write it.

1. The branches of the tree stretched upward like
2. His weekly allowance was stretched like
3. He kept yawning and stretching like
4. Books are like
5. The books were arranged in a neat row like
6. The book's description of the battle was like
7. When she was angry, her words were like
8. She stopped short in the middle of a sentence as though
9. He felt his heart pounding like

a cat just getting up from a nap.
a man's arms extended in prayer.
ships that take you to strange lands.
a rubber band about to break.
a real battle taking place before his eyes.
soldiers on parade.
her speech had been cut by a knife.
a hammer on an iron bar.
icicles freezing in the air.

6. One approach in working with similes is to discuss "cliches" - well-known phrases that the student may have heard but hasn't associated with similes. Students may orally give examples of similes that are used in everyday language. These may be recorded and added to the phrases stated in the next activity.

Write the incomplete phrases on cards of one color and the words that complete the phrases on cards of another color. Students may complete each phrase by matching them on the blackboard, using masking tape on the back. Or they may complete the exercise independently on their paper.

Students should also explain the literal meaning of each expression.

7. Students may illustrate the figurative meanings of similes. (See illustrations for "I was so gay that I felt as light as a feather" and "My hands were like ice".)

Example:

Her hair was golden, and her cheeks were like two red roses in the sun.

When we draw a picture of a girl's face and then draw a picture of a red rose covering her cheek, the result is blurred and muddled. Yet when a writer makes you see two such images together, one of them becomes more clear and real to you. In other words, what would be ridiculous in an actual picture becomes interesting and helpful in printed words. Figures of speech do just that. They compare two things so that the mental image of one of them is made more understandable.

Example:

The waves topped over each other like boys playing leapfrog.

What two mental images does your mind fuse together in the above simile? Which image is literal? Which one is figurative?

8. Students may complete each simile below by filling in the blank. After completion of the blanks, write them in a comparison sentence, e.g. The homework was easy as pie.

Answers:	
pie	1. as easy as p________________
shootin'	2. as sure as s________________
breeze	3. as free as the br____________
wink	4. as quick as a w______________
molasses in January	5. as slow as m________________

snow	6. as white as s__________
night	7. as black as n__________
day	8. as plain as d__________
picture	9. as pretty as a p__________
rain	10. as right as r__________
fox	11. as sly as a f__________
honey	12. as sweet as h__________
bee	13. as busy as a b__________
button	14. as cute as a b__________
ox	15. as clumsy as an o__________
whip	16. as smart as a w__________

9. Students may make a list of similes for the bulletin board, by composing their own, recording similes used by peers, or finding in their reading selections.

D. Metaphors

1. Definition of a metaphor: In a metaphor the comparison is implied rather than expressed. A likeness is implied by saying that one thing is another thing. The connecting word (like, as, as if, seemed) is omitted. Metaphorization is an attempt to say something in a fresh, new way. Some metaphors, like slang, are tried and either accepted or rejected.

2. When "like" or "as" is omitted.

You have now seen many examples of how authors use words to suggest ideas and pictures to the reader. When you read "The waves plunged after each other like galloping horses", you know that waves are not really like horses. The waves do not have feet, heads, or hides covered with hair. But they are like horses in the way they move. The comparison gives you a mental picture of how the waves moved.

The mental picture would be even sharper and brighter, however, if we left out the word "like". We could speak of the waves as though they were horses, and the sentence might read like this: "The waves were galloping horses, chasing each other furiously up the beach."

There is another way of expressing the same idea without using the word "horses". "The waves galloped furiously up the beach in a never-ending chase after each other."

3. Look over a number of such expressions and see how interesting they can be when we make sure of their full meaning.

a. "Don't be a mule, Tommy," said Mother. "I want you to wear your rubbers."

(Are mules known to be stubborn? Wha
mean when she reprimanded him? What
spoke?)

b. Nothing could frighten Bob. He had
(Nerves are associated with one's fe
steel refers to something very stron
did Bob have?)

c. Just because he could not have his w
bear for the rest of the day.
(Bears are supposed to have bad temp
Dick was behaving?)

d. Helen was smaller than the other gir
with the heart of a lion.
(What kind of courage did she displa

e. The moment the teacher entered the r
a beehive of activity.
(What happened to the class? What w
teacher arrived? In what way is the
a beehive?)

f. Bert was a better tennis player, but
many surprises in his bag of tricks.
(A fox has the reputation of being c
are Hal's chances of winning? Why?)

g. Night is a black curtain that shuts
(Can you get a mental picture of hea
down all around us and causing the

4. Metaphors may also cluster around a giv
fruits or vegetables.

Examples:

a. John was burned up after his fr
b. She's a peach.
c. The car is a lemon.
d. He's the top banana.
e. He has enough lettuce to buy a
f. Mary is low on bread.

Elicit from students the difference bet
urative language in the above.

5. Further examples of metaphors are:

a. In the Idylls of The King Tennyson describes old Bedivere:

When the man was no more than a voice
In the white winter of his age

b. John Donne says:

No man is an island, entire to itself;
Every man is a piece of the continent,
A part of the main

c. Alexander Pope says:

True wit is nature to advantage dressed,
What often was thought, but ne'er so well expressed.

d. Carlyle metaphosizes history by saying:

History is a mighty drama,
Enacted upon the theater of time

e. Note the following metaphors (implied comparisons):

In King Richard II John of Gaunt compares England to a gem
This precious stone set in the silver sea

f. Horace says:

Anger is a short madness

g. Samuel Johnson said:

Language is the dress of thought

Ask: "What is being compared?" "What is the literal meaning of the metaphor compared to the figurative expression?"

6. Additional activities may include:

a. Here are a number of other comparisons. See if you can find in them the exact meaning they intend.

Directions: From the explanations below each sentence, select the one that best fits the underlined words.

1.) Smith's vacation was soon over and he was back in harness again.

- a.) He put himself into a harness.
- b.) He is wearing uncomfortable clothing that feels like a harness.
- c.) He is doing his usual work again.
- d.) He looks something like a horse.

2.) When she faced the audience, Susan became nervous and stumbled over her speech.

- a.) The roll of paper containing the speech dropped to the floor and Susan almost fell over it.

b.) She forgot the words and had to pause several times while trying to remember.

c.) Her tongue became caught in her mouth and it stumbled over the words.

3.) Bob was so surprised at the unexpected visitor that he remained rooted to the spot.

a.) Bob's character reminds one of a tree with its roots firmly in the ground.

b.) The soles of his shoes had spikes which he dug into the ground like roots.

c.) He was too surprised even to move a muscle.

4.) As darkness came on, a million stars blossomed in the sky.

a.) To what are the stars being compared?

b.) What word gives you the clue?

c.) What was the author thinking of when he made this comparison?

d.) Can you tell whether the author loves flowers?

5.) The ranger plodded on stubbornly through the underbrush, while the tempestuous wind snarled at him and the driving rain stung his face.

a.) To what is the wind being compared? Through what word?

b.) To what is the rain being compared? Through what word?

c.) What kind of sound do you think the wind made?

d.) How would you feel if you were the ranger out in such weather?

6.) Dad waited for Danny to explain the disappearance of his best saw and hammer, but the boy could not seem to find his tongue.

a.) Was his tongue lost? Where was it all the time?

b.) How does a person feel when he acts as though his tongue were lost?

c.) Why was Danny unable to answer?

7.) Our companions on the Scout hike were only twenty feet in front of us, but they had already been swallowed up by the fog.

a.) To what is the author comparing the fog? What words tell you?

b.) How much can we see of anything when it is swallowed up by an animal?

c.) How much could be seen of the companions? Why?

8.) Immediately upon the sound of the gong a horde of students came pouring out of the doors into the school yard.

a.) Students are compared to what? Pitcher? Water?

b.) How fast can a liquid be poured? Very slowly? Very fast?

c.) Did the students come one at a time, or in a steady stream?

9.) The marine inched his way through the bushes to get a peek at the enemy.

a.) Did he use a ruler to measure his progress?

b.) How far did he go each second? An inch? A foot? A yard? Or doesn't it matter? Slowly or fast?

10.) "Fred", said his father, "I'm truly proud of the way you came to my help. You're a chip off the old block."

a.) If the father is being compared to a "block of wood", to what does "chip" refer?

b.) In what way are "block" and a "chip" related to each other?

c.) Father was proud of what the boy did. What else about the boy makes his dad pleased?

b. Write the literal meaning for such common metaphors as:

1.) He often falls into trouble with the law.
2.) He likes to see his parents get into a stew.
3.) Let's try to get to the bottom of things.
4.) I will rack my brain to find the right answer.

c. Students may complete a list of original or common metaphors they have heard or read. The class may vote as to which make a comparison in the most fresh, lively way.

d. Students may convert metaphors to similes, remembering that the same double image is expressed, but the simile includes the linking words, like, as, as if, seemed.

E. Euphemism

1. Definition of euphemism: Euphemism is based on contrast, whereas figures of speech such as simile and metaphor are based on similarity. We use euphemism to express a disagreeable or unpleasant fact indirectly.

2. Examples:

a. Because of its unpleasant aspects, we often invent euphemistic terms for death or for a dead person.

We may say that he has deceased
has fallen asleep
has returned to the Father
is at rest

b. Instead of dying, a person perishes, is taken, ends his days or goes the way of all flesh. Less reverently, one may say give up the ghost, croak, or cash in his chips.

c. We use euphemisms for many occasions. We have a tooth extracted, not pulled, withdrawal is used instead of retreat, we perspire rather than sweat, a boarder is a paying guest, an alcoholic may be a drunkard, we make the truth elastic instead of tell a lie.

d. Ask students to tell the meaning of the following euphemisms:

1.) We regret to inform you of your termination of employment.
(You're fired. This is a device to avoid saying disagreeable or unpleasant.)

2.) His condition has deteriorated.
(He's dying.)

3.) Don't call us, we'll call you.
(We don't want you bothering us anymore.)

4.) I perspire heavily.
(I sweat a lot.)

e. The following lesson gives the student practice in recognizing euphemisms. The student reads the related sentences in sections A and B and then puts a check in the blank beside the sentence containing a euphemism. (Correct items are marked.)

	A	B
1.	A thousand men were killed that battle. ___	A thousand men were presumed lost in that conflict. X
2.	He got into trouble with the police. ___	He ran afoul of the law. X
3.	He's unemployed. X	He's out of work. X
4.	I bought a reconditioned car. X	I bought a used car. X
5.	His accounts were short. X	He was an embezzler. ___

6.	She's a guest at the motel. X	She's a customer at the motel. ___
7.	He beat me. ___	He emerged victorious over me. X
8.	He was detained by the police overnight. X	He was jailed overnight. ___
9.	I'm an employee in a big department store. ___	I'm associated with a big department store. X
10.	The Mob threatened to "take care of" him. X	The Mob threatened to rub him out. ___
11.	Mr. Jones is the janitor. ___	Mr. Jones is the building custodian. X
12.	That's not quite true, I'm afraid. X	You're lying. ___
13.	Where shall I take my dirty clothes? ___	Where shall I take my laundry? X
14.	That hat doesn't seem to bring out your good points. X	You look terrible in that hat. ___
15.	It might be a good idea to.... X	Do it!___
16.	He's as game a fighter as they come. X	I beat the bum every round. ___
17.	He's been put away. X	He's been put into prison (or some other institution). ___
18.	I sweat a lot. ___	I perspire heavily. X
19.	Don't spit on the sidewalk. ___	Don't expectorate on the walk. X
20.	I don't imbile. X	I don't drink. ___
21.	He's a press agent. ___	He's a public relations man. X
22.	She is untidy. X	She is messy. ___
23.	He was arrested for drunkenness. ___	He was arrested for intoxication. X
24.	His condition has deteriorated. X	He's dying. ___
25.	Insanity is a big problem. ___	Mental disorders are a big problem. X

NOTE: ANALOGIES, PERSONIFICATION, AND IRONY WILL BE DISCUSSED UNDER PART IV.

F. The following activities may be used to further reinforce the concepts learned regarding similes, metaphors and euphemisms.

1. Mobiles entitled Figures of Speech may be constructed. Illustrated examples of similes, metaphors and euphemisms may be connected and hung to the basic part, "Figures of Speech".
2. The class may be divided into teams of three or four students and each team would collect figures of speech phrases which could then be presented to the opposing teams to illustrate or define. The teams might compete to construct the lengthiest lists of simile, metaphor or euphemism phrases.
3. List 1 to 10 on your paper. Draw a vertical line to allow a narrow column on the left and a wide column on the right. For each expression in the exercise, name on the left the two objects being compared; at the right, explain in what way they seem to be alike.
    1. "I couldn't hold him", the constable insisted. "He slipped right out of my hands like an eel." (boy, eel)
    2. The wind did its skywriting with wisps of clouds. (wind, pilot)
    3. The Russians at the conference table were armored with a constant repetition of "No". (Knight with armor, Russians with "No".)
    4. The empty doorway of the deserted house gaped at us like a toothless old man. (empty doorway, mouth of old man)
    5. The rain streamed down in shining spears. (rain, spears)
    6. The speedboat sliced through the waves as though they were only thin air. (Speedboat and knife, waves and air.)
    7. Suddenly the rain stopped, and the sun popped out with a favorable weather forecast. (sun, weather forecaster)
    8. The little swallows were stunt-flying over their favorite barn.
    9. The only things children wear out faster than shoes are their parents. (shoes, parents)
    10. Some men can make a bay window without any carpenters' tools. They usually do it with a knife and fork. (bay window, bulging waistline)
4. The teacher or student may read a poem and students will write their own personal interpretation of its meaning.
5. Students may write a comparison of poems by different poets on the same topic or theme.

6. Students may wish to write modern ballads, using free verse. Some suggestions for writing may be:

- Time of day
- Season of the year
- Particular place
- Color words, sound words, action words
- An image in each line
- No use of rhyme
- A simile if possible
- A metaphor if possible

Sentences

IV. Students will compare and contrast literal or implied sentences regarding their relationship as indicated by certain clue words.

A. Clue words may suggest more related information is coming in the sentence or sentences. (*in addition*, *furthermore*, *moreover*, *as well as*, *besides*, *and*, *yet*, *in spite of*, *despite*, etc.)

1. There are a number of words that tie thoughts together. They keep the thoughts closely related. A new sentence or new thought may add to the previous statement and support it instead of opposing it.

Example:

> Tommy was the best player on the team; *in addition*, he was the top student in his class.
>
> (The moment you read the clue "in addition", you knew that you were going to find more praise about Tommy. The second thought gave more strength, more importance, to the first.)

2. Determine the clue words in the following sentences that suggest a comparison or relationship between two thoughts or sentences.

   a. Jay likes to jog; besides it is good exercise.

   b. I went to the library, and I insisted on finding a book about birds.

   c. The boy caught a walleye in the lake. Furthermore, he caught a carp, bass, and sunfish.

   d. The winds damaged the roof of the garage. Moreover, the trees were uprooted.

   e. The student received a medal for high jumping, as well as a ribbon for distance throwing.

Answers: a. besides, b. and, c. furthermore, d. moreover, e. as well as

3. Explain how the second thought in each pair below adds to the effect of the first. Name the clue word. The first pair will be explained for you.

   a. Joan likes to drink orange juice; *besides*, it is good for her health. (a. Joan likes orange juice. b. It is good for her to like it.)

   b. The boy promised to return all the money he had lost. Furthermore, he said it would be delivered to the owner the very next day.

   c. Two chairs were damaged when the store delivered the furniture. Moreover, one small cabinet was missing.

d. Dick Dorman received a medal for swimming, as well as honorable mention for his running in the 100 yard race.

e. I insisted on getting an answer, and I also demanded that it should not dodge the question.

4. Some additional activities may be:

a. Students may read selections to locate sentences which contain clues that more information is coming.

b. Students may write their own sentences or compose a story, using as many of the clue words as possible.

B. Clue words may assist in employing opposite or different thoughts for the reader.

1. There are a number of expressions such as but, however, yet, etc., that do not always state exactly the two things that are opposite. The writer gives only a clue. Try to find some of these clue words in the sentences about the old man.

a. It was a bitter cold night; yet the old man wore a light jacket and his head and hands were bare.

b. It was a bitter cold night. The old man, however, wore a light jacket and his head and hands were bare.

c. Even though it was a bitter cold night, the old man wore a light jacket and his head and hands were bare.

d. In spite of the bitter cold night, the old man wore a light jacket and his head and hands were bare.

e. It was a bitter cold night. Nevertheless, the old man wore a light jacket and his head and hands were bare.

2. Read each sentence carefully. From the three choices that follow select the one that most nearly expresses the idea of the sentence.

a. Although most of his working hours were spent in the laboratory, he managed to find some time each day for his children.

(1.) He gave as much time to his children as to his work.
(2.) It was too difficult to give any time to his children.
(3.) He gave a little time daily to his children.

b. When they reached New York, they had only a few dollars left. Nevertheless, they decided to take a sight-seeing trip around the city.

(1.) They came to New York fully prepared to go sight-seeing.
(2.) They could barely afford the sight-seeing trip.
(3.) They were not able to take the sight-seeing trip.

c. When Beethoven was still a young man he began to grow deaf, and soon he could not hear any of his music. Yet he created some of our most beautiful compositions.

(1.) His was an unusual accomplishment.
(2.) It was natural for him to be a great composer.
(3.) His deafness prevented him from writing good music.

3. An additional activity may be:

a. Students may read a selection to locate sentences in which there are clue words to assist the reader in inferring that there are opposite or different thoughts.

C. Clue words may assist in determining the meaning of an unknown word by showing the reader that he can expect a word with an opposite meaning in the forthcoming material.

NOTE: THIS WAS TAUGHT IN DETAIL IN UNIT A-1; THEREFORE, THIS WILL ONLY BRIEFLY BE DISCUSSED AT THIS TIME.

1. Another way in which the authors help you with a new word is by giving an opposite idea in the same sentence or near by. There is often a clue word such as "but" which shows that you may expect an opposite meaning.

Examples:

a. The older folk were eager to go home, but the children were reluctant to leave the beach.
(Since you know what eager means, you can see that reluctant means not eager.)

b. Some of the homes in the village were clean, well-built cabins; others were nothing but hovels.
(What kind of homes are hovels if they are different from "clean, well-built cabins"?)

c. Our visitors were so quiet and well-mannered that we were ashamed of our boisterous behavior.
(Does the first part of the sentence help you to understand the meaning of boisterous, which is just the opposite?)

d. Although the mountain goat looks clumsy, he is remarkably nimble.
(Although is a clue that an opposite idea will be expressed. Which word is the opposite of nimble? Can you think of any other word that means the opposite of clumsy?)

e. The boy was gaunt, but the girl was obese.

f. He was willing, but she was loath to work at the game.

2. In each of the following sentences the difficult word is underlined. There is also a word or phrase that is opposite in meaning. Divide your paper into three columns or categories and do the following:

   Write the clue word. (not, but, although, etc.)
   Write the word or phrase you know.
   Write the meaning of the difficult word.

   a. The tiger ate voraciously until nothing was left of the carcass. Then he had no appetite for the next day.
   b. He was usually friendly and peaceful; however, he could suddenly become very aggressive.
   c. "These look like genuine rubies", said the jeweler. "But they are synthetic."
   d. Everyone in the crowded stadium waited quietly while the pitcher prepared to throw the ball, but the moment the ball was hit the crowd exploded into a tumult.
   e. The prisoner did not give the impression of honesty, but the jury finally became certain of his veracity.
   f. In some countries a great many people are illiterate, but much is being done to teach them to read and write.
   g. The police do not permit people to gather at the scene of an accident. Their first duty is to disperse them.
   h. The old lady enjoyed the company of children if they were neat and clean, but she abhorred them if they were dirty.

D. Clue words can be used and the opposite is not stated but must be inferred by the reader.

1. Many sentences containing the words but, however, yet, etc., do not exactly state the two things that are opposite. The writer gives only a clue. He gives one side of the opposition. The reader must supply the other.

   Examples:

   a. Columbus thought he had reached the East Indies, but he was wrong.

      (The word but is a clue that something different or opposite to the first statement is coming. However, he was wrong is not really the opposite. The true opposite is "...but he had only reached the islands lying off South America.")

b. Mr. Johnson was rich and famous. Yet he was an unhapp
man.
(First thought: He was rich and famous. He should h
been happy.
Second thought (opposite): He was unhappy.)

c. It rained and snowed all day long, although the weat
man had predicted fair weather.
(First thought: It rained and snowed all day long.
Second thought: The weatherman had predicted fair

2. On paper write the clue word for each sentence or pair of
Then write the one side of the opposition which the author
given. (First thought) Next write the clue which the rea
infer or supply. (Second thought) In other words, the a
is the same as above which has been done orally.

a. He insisted that he was right even after we pointed
all his mistakes.

b. It takes a great deal of scientific knowledge and mo
time and preparation to launch a space rocket. In
all the problems, there have been numerous successf
ings.

c. The driver stubbornly insisted that the traffic li
when he passed it. Nevertheless, there were witne
accident who claimed he either was mistaken or was

d. Fred decided to start out on that stormy day rega
the warnings he received from his family and frie

e. He did not have enough popularity for election as
of the company. However, he could speak well, h
meetings, and he could plan important activities

E. The analogy is an extended comparison of relationships.

1. Definition: An analogy is a kind of figurative lan
comparison as does a simile and metaphor. However,
an extended comparison, pointing out several simil
of just one. An analogy means a similarity in rel
things that may otherwise be entirely different.
of likenesses consists in the resemblance not of
selves, but of two or more attributes, circumstan
In science this can be a correspondence in functi
or parts of different structure and origin. It
logic in which it is reasoned that if two or mor
ith one another in one or more respects, they
espects.

2. To further develop the previous concept, ask students questions such as the following:
   a. What is the similarity in relations between eye and sight and gas and car? (One word shows the purpose of the other.)
   b. What is the similarity in relationship of hand to elbow as paw to ear? (Both are parts of something.)
   c. What is the similarity in relationship of author to story and gun to shoot? (Both show an object and its action.)
   d. What is the similarity in relationship to advance-halt and morning-evening? (Both have an antonym relationship.)
   e. What is the relationship to Ohio-U.S.A. and pane-wind? (Both have a part to whole relationship.)

NOTE: THREE PAGES INVOLVING WORD RELATIONSHIPS AND RELATED ITEMS ARE INCLUDED AT THE END OF THE UNIT, IF THE TEACHER WISHES ADDITIONAL TERMS FOR COMPARISONS.

3. To further develop the analogy concept, tell the students that the first two words in the following sentences are related in some way. Ask them to complete the sentence by selecting the last word that is related in the same way to the third word.
   a. Fish is to swim as man is to (paper, time, walk, girl).
   b. Shoe is to foot as hat is to (coat, nose, head, collar).
   c. Dismal is to cheerful as dark is to (sad, starts, bright).
   d. Air is to man as water is to (birds, snakes, fish, trees).
4. Some further activities to be used may be:
   a. Each of the sentences below can be completed correctly by the choice of one of the words in parentheses. The relationship between the second pair of words should be the same as between the first pair of words.
      1.) Turtle is to reptile as mouse is to (insect, rodent, mice).
      2.) Stern is to rear as bow is to (front, side, bottom).
      3.) Triumphant is to victorious as delight is to (unhappiness, pleasure, pretty).
      4.) Laurel is to evergreen as lily is to (seed, fir, flower).
      5.) Pity is to scorn as enjoy is to (enjoyment, dislike, like).
      6.) Clothing is to tunic as gun is to (revolver, shoot, weapon)
      7.) Hoisted is to lifted as immense is to (large, small, heavy).
      8.) Boulder is to large as pebble is to (stone, huge, small).
      9.) Ominous is to threatening as honest is to (cheating, truthful, dishonest).
      10.) Scent is to nose as taste is to (food, ears, tongue).
      11.) Lava is to volcano as steam is to (geyser, heat, river).

b. Complete each analogy using a synonym.

   1.) Apparent is to clear as melody is to (tune).

   2.) Impudent is to saucy as magnificent is to (grand).

   3.) Predict is to foretell as identical is to (alike).

c. Complete each analogy using an antonym.

   1.) Abrupt is to gradual as descend is to (rise).

   2.) Loath is to willing as loathe is to (like).

   3.) Temporary is to permanent as ridiculous is to (sensible).

d. Complete each analogy using a homonym.

   1.) Bade is to bad as steppe is to (step).

   2.) Suite is to sweet as pane is to (pain).

   3.) Mantle is to mantel as bored is to (board).

e. Students may form two teams. A member of one team may begin an analogy and a member of the second team must complete it satisfactorily.

f. Students may enjoy constructing a bulletin board of analogies composed by the class.

F. Personification as a means of comparison.

1. Definition: Another figure of speech that uses comparison is personification; that is giving human characteristics to an inanimate object. Cartoonists often portray the United States as Uncle Sam, or justice as a blind-folded woman. In speaking or writing, one may refer to a ship as she, or talk about the voice of the wind.

   Personifications as figures of speech can be too obvious, as when we refer to Mother Nature or Father Time. Subtle personifications generally are more effective; they are, however, less frequently used than are the overworked figures.

   Examples:

   a. The flood licked greedily at the front door.
      (What has been given human characteristics?)

   b. The wind moaned in the shutters.

   c. Dusk wraps the village in its dim caress.

   d. Lake Mendota wooes me with its crystal face.

   e. I like trees because they seem more resigned to the way they have to live than other things do.

   f. Sob, heavy world,
      Sob as you spin.

2. Students may read to find examples of personification in prose or poetry.

3. Each numbered sentence or passage below employs one of the figures discussed in this unit. Decide whether the figure is a metaphor, simile, analogy, or personification. Write the appropriate word in each blank.

Examples:

1. Her sunburned face was like a ripe tomato. ________
2. The sun poked his head through the curtains. ________
3. He was a massive tree trunk of a man. ________
4. Language is like money. It is a system of symbols and a medium by which people may exchange their intellectual goods. Also, one must be careful to make a distinction between the symbol and the thing for which it stands.

   ____
5. At sunset the sky seemed to catch fire. ________
6. The poem was a delicate mosaic of images. ________
7. His mind was a cat that leaped from idea to idea. ________
8. The road coiled around the mountain like a snake. ________
9. The wind was whispering dark secrets to the trees. ________
10. On clear nights, the moon looks like a silver disk. ________
11. The boys, like peacocks, strutted down the street. ________

Answers: 1. simile; 2. personification; 3. metaphor; 4. analogy; 5. simile; 6. metaphor; 7. metaphor; 8. simile; 9. personification; 10. simile; 11. simile.

4. An additional activity may be: Students may compose original poems involving personification.

G. Irony

1. Definition: Irony is a device used in speaking and writing to deliberately express ideas so they can be understood in two ways. There are the following three basic kinds of irony:

Verbal irony is used to strengthen a statement by forcing the listener or reader to seek its true meaning. For example, a football player may fumble several times and the coach tells him, "You played a great game!" The coach is using irony because he actually means the opposite of what his words seem to say.

Dramatic irony occurs in a play or story when events work out contrary to expectations.

Irony of viewpoint occurs in drama or fiction when a character - or the audience or reader - knows something that the other characters do not know. Suppose the characters are preparing a party for a returning soldier. But the reader knows that the soldier has just been killed in an accident on his way home. The irony comes from the contrast between the expectations of the characters and what the reader knows.

2. Students may listen to comments of peers to detect irony in their statements. These may be jotted down and discussed in class.
3. Students may read selections to find written examples of irony.
4. Students may compose a short paragraph with one or more sentences containing irony.

Paragraph

V. Students will learn how a paragraph is constructed to show a comparison-contrast relationship.

   A. The comparison paragraph can be regarded as two paragraphs in one, except that the key sentence usually introduces both of them. (Again note that the word compare may refer either to likeness or to difference.) The paragraph actually takes up two main thoughts, and the reader must be able to recognize where the second thought begins.

      1. Examples of where the key sentence leads you to anticipate a comparison.

         a. Todays teenagers are better students than those of a generation ago.
            (You can see immediately that the paragraph will probably first describe the students of the previous generation and then describe today's students to show that they are better.)

         b. The work of the cowboy today is much different from the work he did in the days of the old West.
            (You should be able from that sentence, to predict that the paragraph will describe the work of both the early cowboy and today's cowboy, and show some of the ways in which they are different. You yourself could probably make many good guesses about those differences.)

         c. When early man discovered the bow and arrow, his method of hunting went through a complete change.
            (This paragraph says nothing about comparison or differences, but the word change means "different from the old way". Therefore, the paragraph undoubtedly will describe both the old methods of hunting and the new way, and show how very different they were.)

         d. How have our ways of living been changed by the use of scientific methods?
            (You have already met key sentences that are questions. Now again you meet the word change. What two things would you expect to find compared?)

         e. We now have better sanitary conditions than we used to have.
            (Here is a new phrase, better than that also tells us we are going to find a comparison. What two conditions are going to be compared? Will they be described as being alike or being different?)

f. People of today are able to obtain many more kinds of food than did their ancestors of a century ago.
(The words more than are your clue. If we eat more now, then people must have eaten less a century ago. The paragraph will probably compare the large variety of food that people eat now with the small variety they used to eat.)

g. The great development of machinery in modern times has brought disadvantages as well as advantages.
(What comparison should you expect to follow this opening key sentence?)

h. A century ago people in cities used to buy water for home use from a water wagon that traveled about through the streets. Today we have a piping system that brings pure water right into the faucets in your home.
(This kind of beginning is especially important because it takes two sentences to give the main thought. You should recognize here that the author is going to show the difference between (1) buying water a century ago, and (2) obtaining pure water today. Can you guess that the water of the early days was not so pure?)

2. The following selections are taken from Rip Van Winkle, a story by Washington Irving. The author gives you two opposite ideas for each paragraph, but he signals the change with clue words.
Directions: Read each paragraph carefully. Be ready to answer the questions in class.

a. Rip was a descendant of the Van Winkles who figured so gallantly in the good old days of Peter Stuyvesant and accompanied him to siege of Fort Christmas. He inherited, however, but little of the fighting spirit of his ancestors.
(Rip's ancestors were gallant fighting men. How can you tell that Rip was not?)

b. If left to himself, he would have whistled away all his days in perfect contentment, but his wife kept dinning in his ears lectures about his idleness, his carelessness, and the ruin he was bringing his family.
(Would Rip have been happy with his lazy life? What kept him from enjoying his laziness? How does the author tell you this?)

c. What seemed odd to Rip was that, although these little men were evidently amusing themselves, they had the gravest faces and the most mysterious silences.
(Why did their appearance seem strange to Rip as compared with their actions?)

d. Rip paused for an instant, but he thought the noise was the muttering of one of those passing thundershowers and he went on his way.
(Why did Rip pause? Why did he go on his way? What two different thoughts must have entered Rip's mind?)

e. True it is, in all points of spirit befitting an honorable dog, he was as courageous an animal as ever scoured the woods, but what courage can withstand the ever-doing and all-besetting terrors of a woman's tongue?
(What are the two opposite or contrasting ideas?)

3. In a class assignment or as an independent assignment, explain the comparisons in the next group of key sentences.
   a. In many ways the Canadian people are very much like the people of the United States.
   b. The small, compact car has advantages over the larger models.
   c. Accidents may occur at home as well as on the street.
4. The following outline may be developed to show how a paragraph is planned and built to show a comparison.

KEY SENTENCE

The automobiles of 1902 were like toys compared with the modern car.

One popular early automobile:

a. Looked like open carriage, made of wood.
b. Weighed 1200 pounds.
c. Seated only two persons.
d. Ran on bicycle-type wheels.
e. Had 12-horsepower engine.
f. Had a top speed of about 10 miles per hour.

Modern automobile:

a. Has streamlined design, made of metal.
b. Weighs 5000 pounds.
c. Can seat more people.
d. Runs on metal wheels, with air-filled tires eight inches wide.
e. Has 300-horsepower engine.
f. Has a top speed much over 100 miles per hour.

You will recognize that even though the key sentence used the word compare, the paragraph actually described the differences. The word compare may refer either to likeness or to difference. You should notice also that a paragraph based on this outline would have two parts. The first part would deal only with early cars; the second part would deal only with modern cars.

5. Additional activities may be:

   a. Students may make an outline for any of the key sentences stated under IV-b. Or they make key sentences for any topics such as the following: school sports, school problems, community concerns, inflation, dress code, etc.

      Later they may compose the paragraph, using the details of their outline.

   b. Students may make their own outline or analysis, of the following paragraph, before they study the one printed following the paragraph in this unit. Their outline should include the key sentence, the first and second part of the comparisons, and the details included under each comparison heading.

PARAGRAPH

1.) While most dealers decide on a price for which their commodities will sell, farmers never know just how much they will get for a product. 2.) A factory owner, for example, considers how much he has paid for raw materials, new machinery, wages, and similar expenses to arrive at his cost of production. 3.) Then he examines the prices charged by other manufacturers of his product. 4.) He takes into account recent sales and appraises business conditions in general, to determine anticipated sales figures. 5.) On the basis of all this information he decides on a selling price. 6.) The farmer cannot estimate how much corn he can produce during the months ahead. 7.) He does not know what the corn crop throughout the states will be. 8.) He does not know how much corn foreign countries will want to buy. 9.) The farmer cannot predetermine figures regarding cost, competing prices, and anticipated sales.

ANALYSIS

1. This is the key sentence: comparing farm prices and other prices
2. Factory owner: (first part of contrast)
   Detail: arrives at cost of production
3. Detail: examines competitors' prices
4. Detail: determines anticipated sales
5. Detail: determines selling price
6. Farmer: (second part of comparison)
   Detail: cannot estimate own production
7. Detail: cannot estimate national production
8. Detail: cannot estimate foreign purchases
9. Summation: farmer's situation compared with factory owner's

B. Ideas expressed in the construction of the paragraph may be written so as to show a time order, simple listing or comparison-contrast relationship. (A paragraph may also show cause-effect, but this will not be studied in this unit.)

1. Is the following paragraph an example of time order, a simple listing, or comparison contrast relationship?
   (Time order or chronological order.)

   During our visit to the museum we saw the first Stars and Stripes ever carried in battle. After that we enjoyed a collection of old silverware, later wandered into the room filled with Indian relics, and finally found ourselves absorbed in a display of old wedding gowns.

   (What type of paragraph do the clue words suggest?)

2. What is the relationship suggested when these same sentence parts are arranged in a different way? (simple listing)

   During our visit to the museum, we saw a collection of old silverware, an absorbing display of old-fashioned wedding gowns, a room filled with Indian relics, and the first Stars and Stripes ever carried in battle.

3. The next paragraph shows still another relationship. What is this relationship?

   During our visit to the museum, we enjoyed seeing the first Stars and Stripes ever carried in battle and the absorbing display of old-fashioned wedding gowns. This was much more interesting than the room filled with Indian relics and the collection of old silverware.

(Now the ideas have a comparison-contrast relationship. The things the author saw have fallen into two groups: two displays which he enjoyed, two others he liked much less. An important additional meaning has been added because the relationship of the parts of the sentence is different.)

4. The sentences below are the opening sentences of paragraphs. Study each sentence carefully. Look for clue words. Decide what kind of details you would expect to find. Decide whether the paragraph will list details, give details in time order, or make comparisons.

Directions: Number your paper 1-10. Under each number write a, b, c on a separate line. After a write the clue word or words. After b write the kind of details. After c write *list*, *time order*, or *comparison* to show the plan of the paragraph.

a. Passenger planes now make a great many nonstop flights to various parts of the world.

b. Seals can easily be trained to perform a variety of different tricks.

c. Mountain climbers frequently run into unexpected hardships.

d. To make a tasty omelet, here is a new method you should try.

e. The Battle of Bunker Hill turned into a surprising victory for the Continental Army.

f. Soldier ants on a march through the jungle act very much like a trained army.

g. Life is much more comfortable today than it used to be.

h. You have to follow directions very accurately in building model planes.

i. The modern automobile has created great dangers as well as great conveniences.

j. The gradual change from water to clouds, to rain, and back to ocean water is a complicated process.

NOTE: THE KEY SENTENCE MAY OCCUR IN ANY PART OF THE PARAGRAPH.

Tone-Mood

Characters

Setting

Facts

Details

VI. Students will compare and contrast larger selections as to the tone or mood of the selection, the characters, setting, facts, and details presented.

A. Classification skills allow students to form major ideas or concepts from the details presented and organize them according to their similarities. Using classification, the student is able to accept or reject concepts according to a category.

1. A scientist studies information he has gathered. He classifies it according to similarities and differences. He groups all related information together into one set of data. When he sees still other similarities among the data within the set, he puts these facts into a separate or smaller set. Each smaller set may be called a subset.

a. Students should classify major science concepts according to their similarities and differences.

b. Students may classify the information about the formation of rocks in the following article.

ROCKS

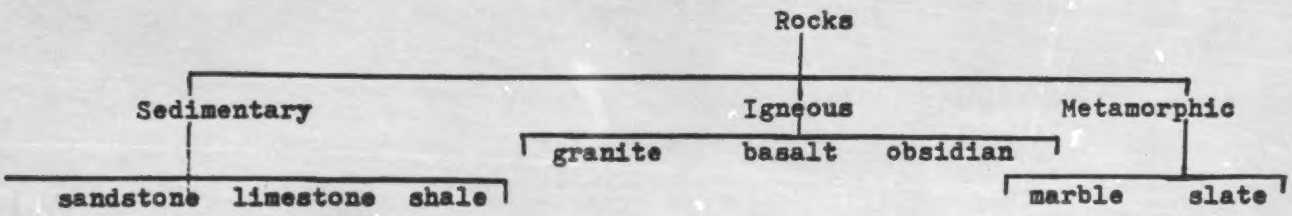
Scientists classify rocks by the way they were made. Sandstone, limestone, and shale were all formed in about the same way. Something settled out of the water to form them. When something settles to the bottom of a liquid, we call it a sediment. So scientists call these rocks sedimentary rocks.

Igneous means formed by fire. Scientists classify rocks made in this way as igneous rocks. There are many kinds of igneous rocks. Granite is one of these. Basalt and obsidian are others.

Marble is an example of the third group of rocks. It is classified as a metamorphis rock. This means that it has changed from one kind of rock to another. It was once limestone, a sedimentary rock. Great heat and pressure changed it to marble. Slate is another metamorphic rock.

(From reading this selection you know that rocks are classified into how many categories or subsets? 3 what are the three classifications of rocks?)

Students may diagram the information which might look like this:


Rocks
Sedimentary
Igneous
Metamorphic
sandstone
limestone
shale
granite
basalt
obsidian
marble
slate

INVERTEBRATES

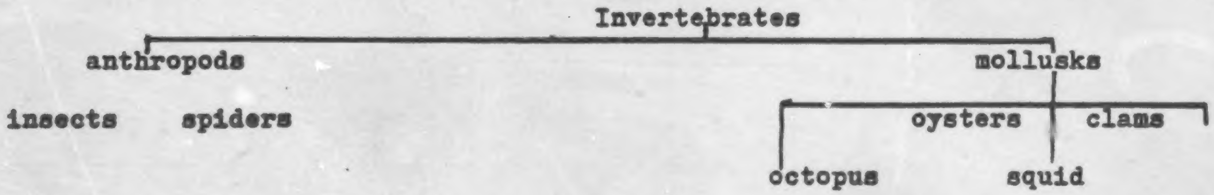
One large group of invertebrates contains more animals than any other. The animals in this group are called anthropods, which means "jointed leg".

Insects and spiders are both anthropods. Spiders, however, are not insects as many believe. It is true that the spiders look much like the insects, but they are different in many ways.

The second largest group of invertebrates is the mollusks. All of these animals have soft bodies. In many of the mollusks, such as the oysters and clams, these soft bodies are covered by a hard, protective shell. Other mollusks, such as the octopus and squid, do not have these hard external coverings.

(How many groups of invertebrates does the author mention? What are the key words that indicate that there will be two groups discussed?)

Classify the information about these two groups by filling in the blanks in the following diagram:


Invertebrates
anthropods
mollusks
insects
spiders
oysters
clams
octopus
squid

B. Students will learn that the common name for major classifications (comparisons) may become the main idea for several paragraphs or the main idea of the selection.

1. Students should read the article, "Some Differences In Africa". They should look for common elements within the selection which can be classified into categories or sub-titles within the story.

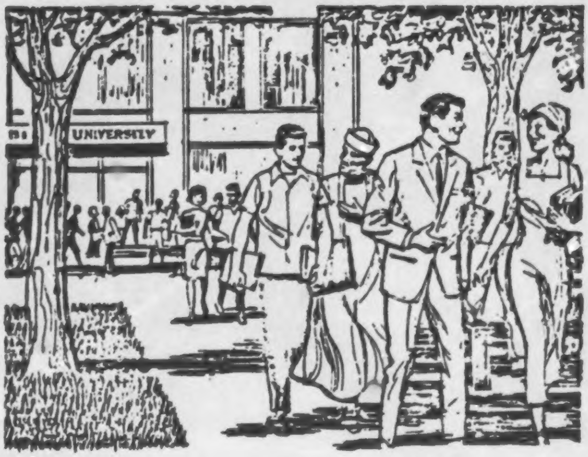
They should write sub-headings for the various parts of the selection. Suggested headings are as follows:

Paragraph 1 and 2 - Contrast in Surface Features
Paragraph 3 and 4 - Contrast in Homes
Paragraph 5, 6 and 7 - Contrast in Industry
Paragraph 8, 9 and 10 - Contrast in Population

W

CONTRASTS IN AFRICA

Seldom do we find so many contrasts in one land as we find in Africa. There are contrasts in the land, in the homes, in the way the people dress, and in the work they do. Some of the contrasts within Africa will be discussed below. Some contrasts between Africa and other regions will also be discussed.



SOME DIFFERENCES IN AFRICA

1. The Sahara Desert in northern Africa is the largest desert in the world. It consists of drifting sand dunes, rocky uplands, and vast stretches of gravel. There are two smaller deserts in southern Africa. They, too, are sandy and barren. About two-fifths of Africa is dry, barren desert land.

2. Quite different from the desert are the grasslands and rain forests in central Africa. These lands reach out on both sides of the equator. The hot sun causes the air to rise. Moist air from the sea comes in. Heavy rains fall. Close to the equator where it is both very hot and damp, dense rain forests grow. On either side of the forests there are fields of tall, waving grass. The great central portion of Africa is covered with these grasslands.

3. First, let us take a look at the homes of the poor. The homes of the poor farmers and laborers are often primitive. Many Africans live in mud huts. The roofs are covered with straw or large leaves. Herdsmen who travel from place to place live simply. Usually their homes are not much more than a covering made of wood and animal skins. In cities the laborers often live in tar-paper shacks. Most of the wandering desert people live in tents. We see that the homes of many Africans are primitive and offer little in the way of modern comforts.

W

4. In the larger cities there are beautiful, modern buildings. Many people live in apartment houses that are up-to-date in every way. People living in these apartment houses have all of the personal comforts of life. Other people who have good-paying positions have homes that are modern and well built. Some farmers who own hundreds of acres of land also have modern homes. It is clear then that many people in Africa have comfortable, up-to-date homes.

5. There is a great difference between the amount of manufacturing done in England and Africa.

6. The great majority of people in England live and work in cities. Of course, some farming is done in England. The amount of farming is small, however, compared to the amount of manufacturing.

7. In Africa the amount of farming is great, compared to the amount of manufacturing. Some Africans clear bushes and trees from a patch of ground. They farm this patch of ground as long as the ground is fertile. Then they move on and clear another patch of ground. Others live in villages in which the people of the village own the land together. Some large and modern farms in Africa are owned by Europeans.

8. Because of Africa's Size, we might expect it to have a large population. Africa is the second largest continent in the world. Eurasia is the largest continent. North America and South America are also large continents. Africa, however, is larger than either North of South America. Yet it has a much smaller population than either of these continents.

9. Let us now compare the population of Africa with that of other areas. The figures are those available at the time this book was written. All of these figures will probably become higher in the future.

10. At present the United States has somewhat more than 50 people per square mile. In some states where there is a great deal of industry, the number of people per square mile is much higher. In New Jersey, for example, there are 800 people per square mile. For the whole continent of Africa there are only 26 people per square mile. While Africa makes up almost one-fifth of the world's area, it has only about a twelfth of the world's population.

ACTIVITY 1

The following questions are about contrasts in Africa. Answer them in your own words.

1. What is the contrast in surface features? ____________________

   ____

2. What is the contrast in homes? ____________________

   ____

3. What is the contrast in the industry of England and Africa? ______

   ____

4. What is the contrast in population in Africa as compared with its size?

   ____

   ____

5. What is the contrast in the population of Africa as compared with the world? ____________________

   ____

W

Optional

REASONING FROM MAPS

You should know how to *read* the symbols on maps. More than that, you should know how to get the most meaning from these symbols. When you study different types of maps together and reason about their meanings, you often get a deeper understanding. See how well you can reason about meanings given in these three maps of Africa.

MAPS OF AFRICA

1. **Look at Map No. 1.** What do the oblong boxes at the left tell about rainfall in Africa? ____________________

____

   a. Where is rainfall the heaviest? Write *1* on each part where it is heaviest.
   b. What parts have moderate rainfall? Write *2* on these parts.
   c. What parts have the lightest rainfall? Write *3* on these parts.

2. **Look at Map No. 2.** What does this map show? ____________________

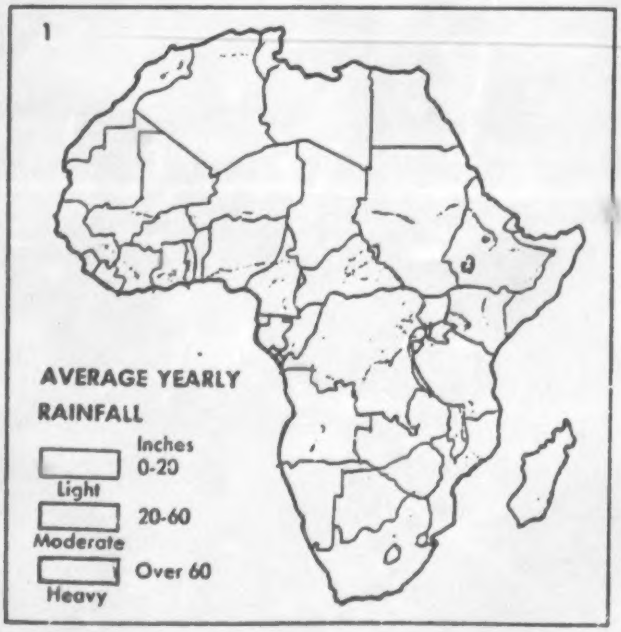
   a. Find desert lands on this map. Write *D* on each part that is a desert.
   b. Look back at Map No. 1. Compare the parts that have light rainfall with the parts that are deserts on Map 2. Why are these lands deserts?

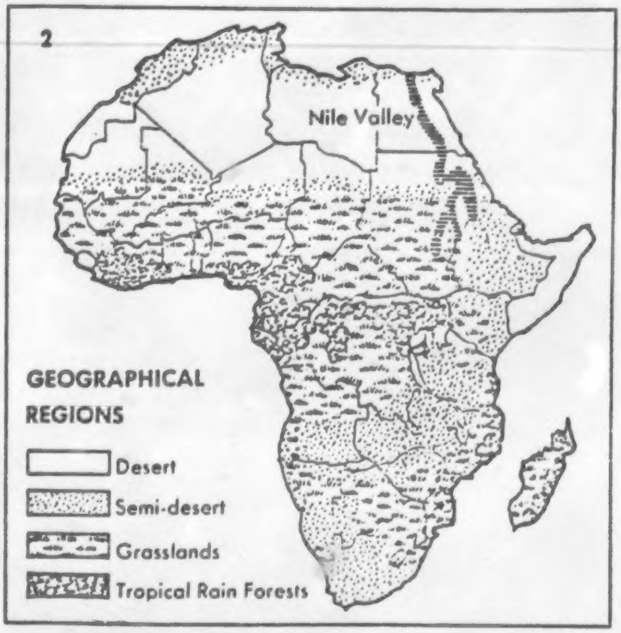
____

   c. Which sections on Map No. 2 show tropical rain forests? Write *F* on these sections. Look back at Map No. 1. Find where rainfall is heaviest. Compare these sections with the sections on Map No. 2 that have rain forests. Give a reason why the rain forests are found in these sections.

____

____


1
AVERAGE YEARLY RAINFALL
Inches
0-20
Light
20-60
Moderate
Over 60
Heavy


2
Nile Valley
GEOGRAPHICAL REGIONS
Desert
Semi-desert
Grasslands
Tropical Rain Forests

W

Optional

d. Find the large section of grasslands on Map No. 2. Write *G* on this part. Look back to Map No. 1. Compare the large section that has moderate rainfall with the grasslands. Give a reason why the grasslands are where they are. ____________________

____

3. **Look at Map No. 3. What is the topic of this map?** ____________________

What does it show per square mile?

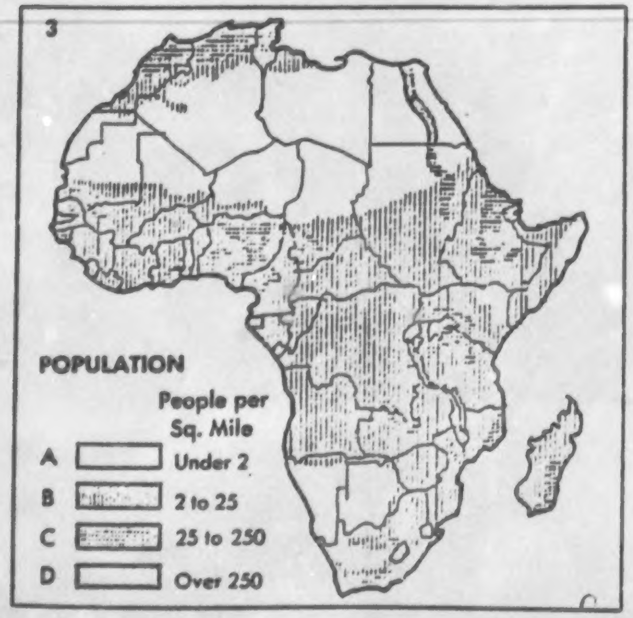
____

a. Find the sections in which there are under 2 people per square mile. Write *A* on these parts.

b. Now look at the same parts of Africa on Map No. 1 and on Map No. 2. Give two reasons why so few people live in these regions.

(1) ____________________

(2) ____________________



c. Find the larger sections on Map 3 where there are from 2 to 25 people per square mile. Write *B* on these sections. Find these same sections on Map No. 1 and Map No. 2. Give two reasons why more people live in these sections than in the first sections you found. (1) ____________________

____

(2) ____________________

d. Find the larger sections on Map 3 where there are 25 to 250 people per square mile. Write *C* on these parts. For the most part are they in the interior or along the coast?

____

e. Now study Map No. 1. Why do more people live in these sections?

____

f. What might be another reason?

____

g. Name one area that contains over 250 people per square mile.

____

Why do so many people live here?

____

4. Now that you studied these maps, state why Africa has only a twelfth of the world's population.

____

____

Optional

HAPPENINGS IN A LAND OF CONTRASTS

Africa is a land of contrasts. It has rain forests and deserts, mountains and valleys, fierce lions, and patient camels. The happenings that you will read about in this unit have their settings in this interesting area of the world.

The story that you are about to read is about a lion that lived in Africa. His name was Sur-Dah (sėr′də). He was ruler of the grasslands. He often fought with other huge and fierce animals, and he always won the battle. All other animals feared him. Then one day something surprising happened. Read and find out what it was.

TWO-LEGGED LIGHTNING

The ostrich sat very quietly in the sand, his huge legs folded under him. His long and slender neck curved upward to a great height. His feather-covered body was black except for the beautiful plumes of his wings and tail. The featherless neck was bluish in color, and it was topped by a head too small for the rest of the body.

Sur-Dah thought it was the funniest creature he had ever seen. He had come upon it as he walked out from the tall grass. Now he stood stock-still, watching the giant bird with an interested eye.

Sur-Dah had seen ostriches before, though never at such close quarters. He had seen them traveling with herds of gnus and hartebeests. Since ostriches were friendly with these harmless animals, he felt sure that they could not be dangerous.

For a long moment he watched, not moving. The ostrich was equally motionless, his broad bill pointed straight at Sur-Dah. The ostrich did not rise. He merely waited for the lion to make the next move.

Sur-Dah was surprised and somewhat annoyed. Why didn't this creature take flight? Did it not fear him? Was it not aware that all the other animals made speed to get away when he appeared?

Sur-Dah sat down as a dog sits. He had been on his way to hunt at a nearby waterhole, but had forgotten all about that. He gazed for a moment at the bird. And the

W

Optional

bird quietly gazed back at him. In its soft eyes there was no fear.

And suddenly Sur-Dah was angry. This creature did not show him the proper amount of respect. He would teach it a lesson.

More than that, he was hungry. Why should he travel to the waterhole for his dinner when it lay here before him?

He settled low, making ready for the short run which would send him to his prey. But even as Sur-Dah made his first move, the ostrich rose up on his strong legs and made off across the grasslands.

This animal was not so stupid after all! Sur-Dah flattened out and ran faster. He was sure that he would shortly overtake his prey. But the ostrich, moving stiffly on his ungainly legs, began to gain speed.

Sur-Dah laid his ears back and ran with every once of speed he possessed. It would take a hard run to close the gap, he now saw. But he was certain that it would be worth the effort.

Yet, strangely, the gap did not close. The ostrich was as far ahead of him as ever. He could not understand this, for the bird did not seem to be running fast. At any rate its legs did not move as fast as his. How could Sur-Dah know that it was hardly necessary for the ostrich to move its legs rapidly? With every stride the ostrich covered fifteen to twenty feet!

Now furious, Sur-Dah tried vainly to run faster. But he could go no faster. Moreover, he was tiring, panting heavily, nearing the limit of his endurance.

So he decided that it would be wiser to hunt easier prey. He slowed down and came to a stop, giving up the chase.

Then he saw to his surprise that the ostrich had also stopped a short distance ahead. It was looking back at Sur-Dah with a mildly curious expression in its bright eyes.

Ah—the creature was tired out! And no wonder, after such a run.

Though he, himself, was also very weary, Sur-Dah leaped to the chase once more. He was sure now that he would shortly overtake the weakening bird. Sur-Dah raced across the grassland in the bird's wake like a yellow streak. The bird was running again, but Sur-Dah was sure that its pace had slowed. He seemed to be gaining slightly . . . If he could only keep up a few moments longer, he would surely show that ostrich who was master.

But he had covered a great distance, running with all his might. The terrific effort was telling on him. And it was then that something happened. Something that he would not have believed had he not seen it with his own eyes.

The ostrich suddenly put on a burst of blinding speed. It was the unbelievable speed of one of the fleetest of all land creatures.

In a moment the huge bird was far out of range. It disappeared like a phantom across the grassy plain.

Sur-Dah lay down on the spot, miserable and unhappy. His tongue was hanging out and dripping with saliva. His muscles trembled, his eyes were bloodshot, and his lungs seemed ready to burst.

Ostriches were not his prey. They were given speed far beyond his. He might as well try to run down a fleecy cloud in the sky.

1. What happened in the chased compared to what Sur-Dah expected to occur?

Optional

2. **What was one thing about the ostrich that was beautiful?** ____________________

____

3. **How did its head compare in size to the rest of its body?** ____________________

____

4. **With what animals had Sur-Dah seen the ostrich traveling?** ____________________

____

5. **Were these other animals harmless or dangerous?** ____________________

6. **Sur-Dah was on his way to a certain place when he saw the ostrich. What was that place?** ____________________

7. While the lion stood still watching the ostrich, what did the ostrich do? ____________________

____

8. Which one gained speed as the lion chased the ostrich? ____________________

9. What happened to the ostrich at the end of the story? ____________________

____

10. How did the lion feel at the end of the story? ____________________

____

THOUGHT QUESTIONS

1. **Why is the story called "Two-Legged Lightning"?** ____________________

____

2. **At the beginning of the story did Sur-Dah plan to kill the ostrich?** __________ **Why did he stand and look at it?** ____________________

____

3. **Sur-Dah reasoned that the ostrich was harmless. What else did he omit from his**

Optional

√ √

reasoning that was very important? ____________________ ________________

____

4. The ostrich sat still as long as the lion did not move. Why didn't it run in the first place? ____

5. Why was the lion going to hunt at the waterhole instead of in the tall grasses?

____

6. What was the lesson that Sur-Dah planned to teach the ostrich? ________________

____

7. What did the lion really plan to do with the ostrich? ____________________

____

8. One sentence says that in a moment the bird was far out of range. What does "out of range" mean? ____

9. What is a "phantom"? ____

10. The lion didn't have the ostrich for his dinner. Is that the only reason that he was unhappy? __________ Explain. ____

____

11. The lion is often called "king of the beasts." Why is he called this? ____________

____

Do you think that Sur-Dah believed he was "king of the beasts"? ________________

Tell why or why not. ____

12. Did Sur-Dah learn anything from the ostrich? __________ If so, what did he learn?

____

13. Sur-Dah decided that it would be wiser to hunt for easier prey. What is meant by "prey"? ____

C. Students will realize that the setting within a story may differ from beginning to end.

1. To become more aware of the term "setting" students may compose a story with its setting in some part of Beloit. Within the story, students should change their setting to other parts of Beloit.
2. Students may write a paragraph or short selection comparing two particular settings, such as an early western town, a farm, a factory town, a New England fishing port, a South Sea Island or an alien planet. Students should not immediately identify the settings, but post the comparitive descriptions so that other students can try to identify them.
3. Students may read Linescapes, "Dark They Were, and Golden-Eyed", pages 168-185 to compare the setting at the first part of the story to the gradual change of setting at the last part of the story. (At this time other comparisons may with to be completed, such as changes in foods, names, language, appearance of people.)
4. Students may wish to read other selections in which the story setting takes place in different areas.
5. Students may wish to compose a play, and design the necessary background for various settings.

D. Students will realize that the mood of the story may be affected by the setting and the character development, and may change throughout the story.

1. Students may state the mood of the following two selections from Dimensions: "The Way Through The Woods", p. 163,
   "Thomas Jefferson", pp. 316-317.

NOTE: ALTHOUGH IT IS SUGGESTED THAT THE COMPARISON OF MOOD BE LIMITED TO ONE SELECTION IN THIS UNIT, THE TEACHER MAY WISH TO COMPARE THE MOOD OF "THE LONE GRAVE", pp. 158-162. (INTRODUCED IN UNIT A-1) WITH "THE WAY THROUGH THE WOODS", p. 163.

2. Students may compare the moods in the three parts of the selection, "Icaras", pp. 114-115.
3. Students may read library books and report on how the mood changed throughout the story.
4. Students may compose their own stories in which their is a contrast of moods.

E. Students will compare characters within a story selection. As stated in Unit A-2: "The development of characters in a story and the insight obtained about characters in a story are central to the purposes and function of comprehension."

1. Students may compare one or more various sub-skills regarding characterization:
   a. Students may identify and compare the character's personal traits.
   b. Students may identify and compare the character's emotional reactions.
   c. Students may identify and compare the character's motives.
   d. Students may compare the various ways in which authors have communicated character development. This could include descriptions of characteristics, actions, dialogue, character's own thoughts, impression of other characters, and illustrations.
   e. Students may recognize and state conscious comparisons by the author.
2. Stories in which characters may lend themselves to character comparison:
   a. Oceans and Orbits, "Best Friend", pp. 96-115.
      (The characters opposing points of view may be compared.)
   b. Linescapes, "South Town", pp. 26-37.
      (Motives of the characters may be compared.)
   c. Linescapes, "The Wolf of Thunder Mountain", pp. 40-57.
      (Similarities and differences of Grandfather and the wolf may be compared.)
3. Additional activities which may be used for character comparison are:
   a. Students may work in groups to compose a short skit with a dialogue between two or more characters. The audience could then write a comparison of the development of the characters within the skit.
   b. Compose a correspondence of at least two letters, one from each character to the other, in which they discuss their feelings about their conflicts.
   c. Write another story using the same characters but in another plot. Then make a comparison of the actions of one or more characters in both plots.
   d. A chart may be made comparing the males or females who are portrayed in a story. Suggested comparisons may be:
      1.) personal traits
      2.) motives
      3.) emotional reactions
      4.) appearance
      5.) skills

F. Additional comparison activities which students might enjoy are:

1. Students may study the picture included at the end of the unit entitled "Country School" by Winslow Homer. They may compare how this schoolroom is different from their school. Other questions which may lead to comparison activities are:
    a. How would you feel about being in a class with students of all ages? How do you think the students in the picture felt?
    b. What are the children doing? How does this compare with your day?
    c. Why do you think the little boy is crying? Why do children sometimes cry in our school?
    d. What is the teacher doing? How does this compare with our teachers?
2. Students may wish to do research in an encyclopedia regarding places such as Italy, Japan, Alaska, Florida, New York, etc. They may then make a chart or bulletin board to show comparisons between some of the following:
    a. location
    b. climate
    c. types of communities
    d. resources
    e. ways of securing food
    f. animal life
3. Students may anticipate the final outcome of a story when only about half has been read, give their reasons for their expected ending, and later compare what they predicted with the authors outcome.

    A story which may be read is Oceans and Orbits, "Key Item". Read to page 90, and then write your anticipated outcome of the story. Compare with the authors version.
4. Students may read from Oceans and Orbits, "Key Item", pp. 86-91, to compare human thinking with mechanical problem solving.
5. Students may read from Dimensions, "The Little Pharoah", pp. 370-385, to compare similarities and differences in the Egyptian culture and our contemporary culture with respect to the following statements:
    a. Spectators gathered to see the ruler of their country.
    b. The ruler of the country was also considered a god.
    c. Individuals were assigned to defend the ruler and protect him from danger.
    d. Additional comparison suggestions are found in the Dimensions Guidebook, p. 170.

SYNONYMS and ANTONYMS LIST

Word	Synonyms	Antonyms
abbreviate	shorten, contract	lengthen, increase
able	capable, competent	incapable, unskilled
abnormal	irregular, odd	normal, sane
above	upon, overhead	below, under
abstract	difficult, remove	clear, add
absurd	foolish, impossible	meaningful, sensible
abundance	plenty, profusion	insufficient, without
accelerate	quicken, hasten	slow down, delay
accept	believe, approve	dissent, deny
accomplish	complete, achieve	neglect, fail
accurate	correct, perfect	wrong, false
achieve	accomplish, complete	fail, incomplete
acquire	gain, secure	lose, forfeit
active	energetic, spirited	idle, lazy
actual	real, genuine	nonexistent, false
add	increase, total	subtract, remove
admirable	excellent, good	unfavorable, bad
adore	love, worship	hate, despise
adult	grown-up, mature	immature, child
advance	progress, proceed	revert, retreat
advertise	announce, proclaim	conceal, hide
affection	love, respect	dislike, hate
after	following, next	before, precede
aggressive	hostile, militant	peaceful, friendly
agile	spry, athletic	dull, slow
agree	consent, accept	disagree, debate
aid	help, assist	hinder, stop
alarm	frighten, shock	calm, soothe
allow	permit, admit	deny, refuse
alone	solitary, isolated	accompanied, partner
always	forever, eternity	never, sometimes
annoy	disturb, irritate	please, calm
antique	ancient, old	new, modern
anxious	fearful, troubled	relaxed, peaceful
apparent	obvious, clear	mysterious, hidden
appreciate	value, respect	repel, ungrateful
arid	dry, waterless	wet, fertile
arrange	classify, organize	confuse, muddle
artificial	false, synthetic	real, authentic
ask	inquire, question	answer, reply
assemble	collect, group	disperse, scatter
attach	connect, join	detach, subtract
authentic	real, genuine	false, artificial
average	ordinary, middle	unusual, extreme
avoid	shun, evade	seek, contact
awkward	clumsy, ungraceful	graceful, dextrous
bad	evil, wrong	good, right
bald	hairless, bare	hairy, covered

Word	Synonyms	Antonyms
ban	forbid, prohibit	allow, encourage
battle	struggle, contest	peace, harmony
before	earlier, prior	after, behind
begin	start, initiate	end, finish
behind	after, following	ahead, leading
believe	trust, think	doubt, question
below	under, lower	above, higher
beneficial	helpful, favorable	harmful, dangerous
best	prime, choice	worst, inferior
bewilder	confuse, puzzle	clarify, explain
big	large, great	little, small
birth	beginning, origin	death, end
block	obstruct, hinder	clear, open
bold	defiant, brazen	modest, shy
borrow	take, steal	lend, give
bottom	base, foundation	top, head
brake	stop, curb	accelerate, continue
brave	bold, heroic	cowardly, fearful
break	fracture, crack	mend, heal
brief	short, concise	long, elaborate
bright	shining, smart	dull, stupid
broad	wide, large	narrow, slender
brutal	coarse, cruel	kind, gentle
bury	cover, hide	uncover, reveal
busy	working, active	idle, inactive
buy	shop, purchase	sell, market
calm	quiet, peaceful	excited, agitated
capture	seize, arrest	free, release
care	concern, protection	neglect, apathy
careful	cautious, watchful	careless, reckless
cease	stop, quit	continue, endure
certain	sure, positive	uncertain, indefinite
champion	winner, victor	loser, defeated
cheap	inexpensive, common	dear, scarce
chilly	cold, brisk	warm, toasty
chubby	fat, stout	skinny, thin
clear	remove, clean	retain, opaque
close	shut, finish	open, start
coarse	rough, crude	smooth, refined
colorful	vivid, bright	colorless, white
combine	mix, blend	separate, distill
comical	funny, humorous	tragic, sad
common	public, usual	private, odd
complete	finish, whole	begin, incomplete
complex	confused, involved	simple, clear
comprehend	understand, know	confuse, puzzle
compress	reduce, condense	expand, spread
conceal	hide, camouflage	disclose, uncover
conclude	finish, stop	begin, initiate
concrete	real, tangible	abstract, flimsy
condense	compress, concentrate	enlarge, expand

Word	Synonyms	Antonyms
confess	admit, consent	deny, refuse
confine	imprison, restrain	free, release
conflict	disagree, fight	agree, peace
confuse	mistake, jumble	clarify, explain
connect	unite, combine	separate, disconnect
conscious	awake, aware	unconscious, unaware
consent	agree, accept	refuse, deny
constantly	always, continual	seldom, scarcely
constrict	squeeze, contract	expand, spread
contain	hold, comprise	exclude, release
continue	persist, endure	stop, discontinue
contract	shrink, reduce	expand, increase
convenient	timely, nearby	inconvenient, far
cool	chilly, calm	warm, excited
correct	remedy, right	incorrect, wrong
courage	bravery, valor	cowardice, fear
cover	hide, contain	uncover, exclude
coward	weakling, timid	hero, brave
cruel	mean, brutal	kind, gentle
cry	sob, weep	laugh, sing
cut	shorten, compress	increase, lengthen
damage	spoil, ruin	remedy, repair
dangerous	hazardous, risky	safe, secure
dark	black, secret	light, open
dead	lifeless, inactive	alive, active
decay	rot, spoil	bloom, flourish
decrease	reduce, shorten	increase, lengthen
deduct	subtract, remove	add, increase
defect	flaw, blemish	perfection, faultless
defend	protect, shield	attack, assault
deform	disfigure, spoil	improve, beautify
defy	resist, disobey	obey, accept
delicate	fragile, sensitive	gross, hard
delightful	pleasant, appealing	unpleasant, frightful
dense	crowded, stupid	empty, smart
depart	leave, die	arrive, live
depress	lower, weaken	raise, increase
despise	hate, scorn	love, accept
destroy	ruin, wreck	restore, build
devotion	love, loyalty	hatred, infidelity
die	perish, decease	live, exist
different	opposite, varied	same, alike
difficult	hard, rough	easy, simple
dim	faint, weak	bright, strong
dirty	soiled, messy	clean, tidy
disagree	quarrel, dispute	agree, comply
disaster	casualty, accident	fortune, luck
disease	sickness, illness	health, vigor
distance	length, extent	nearness, closeness
distinct	different, exact	alike, indefinite
divide	separate, share	unite, multiply

Word	Synonyms	Antonyms
docile	gentle, tame	stubborn, wild
doubt	suspect, question	believe, trust
drag	pull, crawl	push, speed
drop	fall, stop	rise, start
dry	arid, parched	wet, humid
dull	blunt, gray, slow	sharp, bright, busy
early	past, back	late, future
easy	simple, kindly	hard, strict
elder	older, senior	younger, junior
elementary	basic, primary	advanced, secondary
emit	send out, ooze	receive, admit
empty	eliminate, drain,void	fill, remain
encourage	urge, promote	discourage, hinder
enemy	opponent, foe	friend, ally
energy	power, vitality	weakness, powerless
enjoy	like, appreciate	hate, disgust
enormous	huge, giant	tiny, minute
enter	go in, join	exit, leave
entirely	completely, totally	partly, slightly
equal	match, parallel	unequal, different
eternal	forever, infinite	temporary, finite
even	level, same, still	uneven, unequal
evil	bad, wicked	good, kind
exact	precise, accurate	vague, wrong
excite	stir, provoke	compose, calm
exhaust	drain, tire	save, pep
exit	leave, depart	enter, join
expand	swell, magnify	contract, reduce
expensive	costly, dear	cheap, reasonable
experience	adventure, feeling	inexperience, numbness
export	ship, send out	import, admit
expose	uncover, reveal	hide, conceal
express	say, show, send	slow, hold
exquisite	beautiful, intense	ugly, dull
extend	enlarge, give	decrease, take
extreme	excessive, final	moderate, first
fable	story, myth, legend	truth, nonfiction
face	encounter, expression	avoid, expressionless
fact	truth, point	lie, falsehood
fail	flunk, weaken	succeed, strengthen
fair	light, clear, average	dark, cloudy, great
fake	false, imitation	real, genuine
fall	drop, defeat	ascend, rise
false	untrue, artificial	true, genuine
familiar	well-known, close	unknown, distant
fantastic	odd, strange	ordinary, usual
far	distant, much	near, little
fast	starve, swift	eat, slow
fat	plump, stout	thin, slender
female	woman, feminine	male, masculine
fertile	productive, fruitful	unproductive, barren

Word	Synonyms	Antonyms
feud	quarrel, fight	peace, harmony
few	little, some	many, several
fiction	fantasy, myth	truth, nonfiction
fill	load, supply	empty, deny
find	discover, disclose	lose, misplace
fine	charge, good	gift, bad
finish	complete, stop	begin, start
first	primary, beginning	last, ending
fix	repair, mend	break, impair
flat	even, dull	uneven, exciting
fluid	liquid, watery	solid, hard
foe	enemy, opponent	friend, partner
follow	succeed, obey	lead, ignore
foot	sole, base	top, summit
forbid	prohibit, prevent	encourage, permit
force	compel, power	prohibit, stop
forgive	pardon, excuse	blame, accuse
forward	ahead, bold	backward, shy
fraction	part, division	whole, total
fragile	delicate, flimsy	sturdy, strong
free	loose, independent	enslave, restricted
freeze	chill, stiffen	defrost, relax
fresh	new, energetic	old, dull
friend	companion, partner	enemy, opponent
front	fore, first	rear, back
frown	scowl, pout	smile, grin
full	complete, plump	empty, thin
fuse	join, combine	separate, divide
future	coming, tomorrow	past, yesterday
game	contest, wildlife	work, domestic
gather	collect, tuck	scatter, unravel
gay	happy, colorful	sad, dull
gentle	tender, kindly	rough, mean
get	obtain, acquire	give, lose
giant	huge, enormous	tiny, minute
give	donate, supply	take, accept
go	move, work	come, stop
good	excellent, right	bad, wrong
grave	serious, dignified	cheerful, common
great	grand, outstanding	small, unimportant
green	immature, new	ripe, experienced
grow	increase, raise	shrink, kill
handy	convenient, skillful	inconvenient, inept
happy	glad, joyful	unhappy, sad
hard	firm, difficult	soft, easy
head	lead, govern	follow, obey
heal	cure, remedy	damage, impair
heart	kindness, courage	unkindness, cowardice
heaven	sky, paradise	earth, hell
heavy	weighted, bulky	light, thin
height	altitude, summit	depth, bottom

Word	Synonyms	Antonyms
help	aid, benefit	hinder, deter
here	this place, present	there, absent
hide	conceal, veil	expose, unveil
high	lofty, great, shrill	low, base
hire	employ, rent	fire, own
hit	strike, meet	miss, avoid
hold	keep, have	release, drop
hollow	empty, void	occupied, full
honest	truthful, genuine	dishonest, unfair
hot	burning, spicy	cold, bland
huge	immense, enormous	tiny, minute
hurt	harm, wound	help, aid
ideal	perfect, flawless	faulty, imperfect
idle	inactive, lazy	busy, ambitious
ignorant	foolish, uneducated	smart, intelligent
ill	sick, evil	healthy, good
immature	childish, unripe	mature, ripe
import	admit, meaning	export, insignificant
important	valuable, meaningful	unimportant, useless
imprison	jail, confine	free, release
improve	better, develop	worsen, deteriorate
include	contain, cover	exclude, reject
incorrect	wrong, inaccurate	right, correct
increase	enlarge, expand	decrease, lessen
indefinite	vague, confused	definite, clear
independent	self-reliant, alone	dependent, unsure
individual	single, human	group, several
inferior	lesser, worse	superior, better
infinite	limitless, endless	limited, ending
ingenious	clever, creative	unoriginal, dull
initial	first, primary	final, last
innocent	faultless, harmless	harmful, dangerous
insane	crazy, foolish	sane, sensible
intelligent	knowing, sensible	ignorant, stupid
intense	extreme, strong	moderate, weak
interest	concern, share	unconcern, apathy
interesting	entertaining, inviting	uninteresting, dull
interior	inside, middle	exterior, outside
internal	inner, interior	external, outer
invalid	sick, void	healthy, valid
irregular	abnormal, uneven	normal, regular
irritable	cranky, impatient	pleasant, agreeable
join	connect, unite	separate, divide
joyful	happy, cheerful	sad, solemn
jumble	mix, confuse	arrange, organize
junior	younger, lower	senior, higher
just	exact, only, fair	corrupt, unfair
jut	project, stick out	recess, indent
juvenile	youth, young	old, mature
keen	sharp, quick	dull, slow
keep	hold, save	discard, lose

Word	Synonyms	Antonyms
kill	murder, destroy	create, build
kind	gentle, type	cruel, dissimilarity
large	huge, giant	small, little
last	final, ultimate	first, beginning
laugh	giggle, chuckle	cry, weep
lazy	inactive, indolent	ambitious, active
leave	exit, depart	arrive, stay
legal	lawful, permitted	illegal, unlawful
legend	story, myth	nonfiction, truth
liberal	generous, unselfish	stingy, narrowminded
light	bright, airy	dark, heavy
like	enjoy, love	dislike, hate
limp	loose, floppy	stiff, firm
liquid	fluid, water	solid, firm
little	tiny, miniature	large, monstrous
live	exist, dwell	die, extinct
lock	fasten, shut	unlock, open
logical	sensible, sane	illogical, insane
long	lengthy, extensive	short, brief
lose	fail, mislay	win, find
loud	noisy, roaring	low, soft
love	cherish, adore	hate, dislike
lovely	beautiful, attractive	ugly, unattractive
low	inferior, evil	superior, good
loyal	faithful, devoted	disloyal, untrue
lucid	clear, plain	unclear, cloudy
luxury	comfort, splendor	poverty, squalor
mad	angry, crazy	sane, peaceful
magnify	intensify, expand	minimize, reduce
main	principal, leading	secondary, minor
major	superior, higher	minor, lesser
make	create, force, kind	destroy, stop
male	manly, masculine	female, feminine
man	person, individual	woman, unhuman
manifest	visible, evident	obscure, hidden
man-made	artificial, unnatural	natural, original
many	several, numerous	one, few
massive	large, heavy	little, light
mature	adult, ripe	green, immature
maximum	highest, greatest	minimum, least
mean	unkind, malicious	pleasant, kind
mediocre	average, ordinary	superior, inferior
meet	join, assemble	separate, leave
melt	dissolve, change	solidify, crystallize
mend	repair, fix	impair, break
microscopic	tiny, minute	huge, large
middle	center, nucleus	exterior, superficial
migrant	wandering, roaming	stationary, sedate
mild	gentle, moderate	violent, harsh
militant	warlike, fighting	peaceful, friendly
mind	brain, obey	mindless, ignore

Word	Synonyms	Antonyms
minimum	smallest, least	most, maximum
minor	inferior, immature	major, adult
miserable	unhappy, pitiful	happy, admirable
misfortune	difficulty, disaster	good luck, fortune
mix	blend, combine	separate, divide
mobile	changeable, movable	immobile, changeless
modern	progressive, new	old, ancient
moist	damp, humid	dry, arid
moment	instant, minute	hour, eternity
moody	glum, gloomy	happy, cheerful
moral	honorable, right	immoral, wrong
more	greater, farther	less, fewer
most	maximum, majority	least, minority
move	change, influence	stay, remain
mysterious	hidden, secret	obvious, clear
myth	fantasy, falsehood	truth, fact
narrow	tight, slender	wide, broad
natural	genuine, honest	unnatural, false
near	close, beside	far, distant
neat	clean, clever	sloppy, stupid
nervous	upset, tense	calm, composed
neutral	cool, independent	involved, dependent
new	original, young	old, trite
noble	important, grand	common, base
noise	clamor, tumult	quiet, calm
normal	regular, ordinary	abnormal, unusual
now	immediately, presently	later, yesterday
noxious	poisonous, damaging	harmless, safe
obey	comply, mind	disobey, resist
obscene	dirty, filthy	decent, clean
observe	see, keep	neglect, ignore
odd	unusual, extra	usual, even
offend	displease, hurt	please, aid
often	frequently, repeated	seldom, never
omit	exclude skip	include, admit
opaque	dark, unclear	clear, transparent
open	start, uncover	close, cover
oppose	fight, hinder	agree, help
optional	voluntary, elective	required, forced
ordinary	usual, inferior	unusual, outstanding
pack	fill, stuff	unpack, empty
pale	weak, whitish	vivid, bright
particular	special, critical	ordinary, general
passive	dormant, gentle	forceful, aggressive
patient	tolerant, indulgent	impatient, rebelliou
peaceful	placid, serene	troubled, agitated
peculiar	odd, special	ordinary, common
pep	energy, animation	apathy, lifelessness
perfect	flawless, ideal	faulty, imperfect
permanent	enduring, constant	temporary, momentary
perpetual	eternal, infinite	brief, finite

Word	Synonyms	Antonyms
personal	private, individual	impersonal, public
persuade	convince, convert	dissuade, compel
pessimistic	unhappy, gloomy	optimistic, cheerful
petty	trivial, low	important, major
pious	religious, faithful	atheistic, agnostic
plague	disease, annoy	soothe, comfort
plain	simple, ordinary	complex, pretty
plentiful	enough, generous	scarce, insufficient
poised	confident, assured	upset, doubtful
polite	civil, respectful	rude, coarse
poor	destitute, pitiful	rich, fortunate
popular	ordinary, favorite	unusual, unpopular
portion	fraction, piece	whole, complete
portly	fat, stately	thin, undignified
possible	imaginable, probable	impossible, unlikely
potent	powerful, strong	weak, frail
power	force, energy	weakness, impotence
precious	valuable, priceless	cheap, inexpensive
prejudiced	partial, opinionated	impartial, fair
premature	hasty, early	delayed, late
preserve	save, shield	neglect, destroy
pretty	lovely, beautiful	homely, ugly
prevent	stop, inhibit	permit, allow
previous	former, earlier	succeeding, following
primary	first, principal	secondary, last
primitive	ancient, simple	modern, advanced
prior	earlier, former	after, later
probable	likely, hopeful	improbable, unlikely
productive	fruitful, creative	sterile, uninventive
profuse	abundant, bountiful	scarce, rare
progress	advance, proceed	retreat, stop
prohibit	veto, deny	allow, encourage
proper	right, accurate	improper, unsuitable
protect	defend, shelter	attack, destroy
proud	boastful, arrogant	humble, modest
pull	drag, attract	push, repel
punish	correct, penalize	reward, praise
push	drive, encourage	pull, discourage
queer	strange, peculiar	normal, average
question	quiz, ask	answer, reply
quick	swift, smart	slow, stupid
quit	end, cease	continue, remain
radical	extreme, utmost	moderate, conservative
raise	increase, produce	lower, destroy
random	aimless, unorganized	planned, organized
rapid	swift, fleet	slow, lazy
rare	scarce, unusual	common, ordinary
rash	careless, impulsive	cautious, careful
rational	sensible, logical	irrational, foolish
real	true, authentic	fake, untrue
rear	back, create	front, destroy

Word	Synonyms	Antonyms
receive	accept, obtain	give, donate
recover	rescue, improve	lose, degenerate
recreation	play, relaxation	work, toil
reduce	decrease, cut	increase, expand
refuse	reject, decline	allow, accept
regular	customary, uniform	irregular, uncommon
reinforce	strengthen, intensify	weaken, extinguish
reject	eliminate, discard	accept, choose
remain	endure, persist	depart, leave
remember	recall, remind	forget, disregard
remove	withdraw, extract	keep, attach
repair	restore, fix	destroy, break
resist	oppose, withstand	comply, yield
responsible	liable, trustworthy	exempt, disloyal
restrict	limit, bound	liberate, free
retard	delay, inhibit	accelerate, increase
retire	quit, retreat	join, advance
reveal	expose, present	hide, conceal
revolt	rebel, offend	accept, please
rich	fertile, wealthy	sterile, poor
rise	increase, ascend	descend, decrease
rough	uneven, difficult	smooth, gentle
rude	discourteous, insolent	polite, courteous
run	hurry, move, continue	slow, stop, cease
sad	unhappy, gloomy	happy, glad
safe	unharmed, protected	unsafe, endangered
same	identical, equivalent	different, unlike
satisfy	please, content	deny, discontent
savage	fierce, cruel	civilized, gentle
save	preserve, rescue	spend, release
scarce	rare, sparse	plentiful, common
scatter	spread, disperse	collect, gather
scramble	combine, jumble	separate, organize
secret	hidden, private	open, public
seize	grab, clasp	release, free
sensible	wise, intelligent	senseless, stupid
separate	divide, segregate	join, unite
serene	quiet, tranquil	confused, disturbed
serious	solemn, important	happy, unimportant
sharp	pointy, severe, clever	dull, kind, stupid
shelter	protect, defend	expose, attack
short	small, brief	large, long
show	explain, display	conceal, hide
shut	close, seal	open, disclose
sick	ill, unhealthy	healthy, well
silent	quiet, noiseless	noisy, loud
simple	easy, common, dull	difficult, bright
skip	leap, omit	include, recall
slavery	servitude, bondage	freedom, independence
sleep	rest, doze	awake, awareness
sloppy	careless, wet	neat, dry

Word	Synonyms	Antonyms
slow	leisurely, dull	quick, bright
small	little, trivial	large, important
smart	intelligent, stylish	stupid, out-dated
smooth	glossy, polite	rough, crude
sociable	friendly, congenial	unsociable, rude
soft	delicate, gentle	hard, harsh
solid	rigid, sturdy	soft, flimsy
somber	dismal, grim	cheerful, happy
sound	noise, healthy, strong	weak, quiet, unfit
spacious	extensive, roomy	confining, narrow
special	unusual, particular	usual, ordinary
split	divide, break	connect, join
square	honest, old-fashioned	crooked, sophisticated
stable	steady, secure	unsettled, unsound
stale	worn, musty	new, fresh
stand	rise, endure, last	sit, yield, fail
stay	remain, stop	leave, proceed
stern	harsh, exacting	lenient, easygoing
still	quiet, calm	noisy, agitated
stop	halt, quit, prevent	start, begin, aid
strange	unusual, odd	ordinary, familiar
strength	power, energy	weakness, frailty
stupid	dull, unintelligent	smart, intelligent
sturdy	powerful, strong	weak, shaky
subtle	faint, tricky	strong, honest
subtract	deduct, remove	add, increase
successful	fortunate, winning	failing, defeated
sudden	quickly, hasty	planned, deliberate
sufficient	enough, plenty	lacking, deprived
summary	outline, capsule	expand, elaborate
sunrise	dawn, morning	sunset, evening
superior	greater, higher	inferior, lesser
surface	exterior, outside	interior, inside
suspect	guess, doubt	know, trust
sweet	sugary, lovely	bitter, unpleasant
swell	expand, good	shrink, bad
symmetrical	balanced, regular	unbalanced, uneven
synthetic	artificial, imitation	natural, true
take	seize, choose	give, reject
tall	high, lengthy	short, brief
temporary	passing, momentary	lasting, permanent
tender	delicate, gentle	harsh, rough
terrible	dreadful, horrible	wonderful, superb
thankful	grateful, appreciated	thankless, ungrateful
thick	broad, numerous, dull	narrow, empty, bright
thin	slender, scanty	fat, plentiful
think	believe, consider	thoughtless, unknowing
thrifty	saving, frugal	wasteful, uneconomical
thrill	excite, delight	bore, weary
thrive	grow, increase	shrivel, fail
tidy	neat, orderly	sloppy, careless

Word	Synonyms	Antonyms
tight	stiff, snug, scarce	relaxed, loose
timid	shy, cowardly	bold, brave
tired	weary, fatigued	rested, revived
together	jointly, grouped	alone, individual
top	peak, head	bottom, base
total	whole, entire, sum	partial, some
tough	strong, hard	weak, easy
transient	passing, drifting	permanent, stationary
triumph	victory, success	defeat, failure
trouble	worry, distress	soothe, calm
true	actual, genuine	false, untrue
ugly	unattractive, cross	pretty, pleasant
uniform	even, alike	uneven, irregular
unify	combine, join	separate, divide
urge	drive, advise	discourage, retard
usual	ordinary, regular	unusual, uncommon
vacant	empty, void	occupied, filled
vague	hazy, indefinite	clear, definite
vain	fruitless, proud	successful, humble
vast	large, enormous	tiny, insignificant
veil	cover, mask	unveil, uncover
verbal	spoken, voiced	written, nonverbal
veto	refuse, deny	accept, pass
victory	success, winning	defeat, lose
vital	important, essential	unimportant,optional
void	empty, blank	filled, complete
wane	decrease, lessen	increase, wax
warm	hot, friendly	cold, unfriendly
wax	increase, grow	decrease, wane
weak	feeble, powerless	strong, powerful
wealth	riches	fortune, poverty
weary	tired, weak	lively, energetic
weird	strange, queer	normal, common
whole	total, entire	partial, fractional
wide	extensive, spacious	narrow, limited
wild	savage, crazy	tame, calm
win	succeed, gain	lose, miss
wise	smart, knowing	dull, uneducated
withdraw	retreat, remove	advance, deposit
wonderful	marvelous, splendid	ordinary, plain
worn	old, tired	new, energetic
worry	trouble, torment	soothe, console
wrap	cover, surround	uncover, open
wrong	incorrect,. evil	right, good
yield	produce, surrender	keep, retain
young	youthful, juvenile	old, mature
zeal	eagerness, fervor	apathy, indifference
zero	nil, none	some, many

WORD RELATIONSHIPS

Purpose Relationship:

eye:sight
gas:car
belt:waist
knife:cut
bed:sleep
cork:bottle

teeth:chew
wood:fire
shoe:foot
pen:write
chair:sit
lid:box

Object to Action Relationship:

boy:shirt
letter:mailbox
author:story
car:drive
animal:skin
candle:wax

girl:blouse
money:bank
poet:poem
gun:shoot
seed:pod
man:food

Cause and Effect Relationship:

pig:pork
seed:tree
autumn:winter
heat:fire
wound:blood
heat:furnace

steer:beef
egg:bird
spring:summer
water:rain
accident:damage
cold:freezer

Synonym Relationship:

cat:feline
small:tiny
copy:imitate
first:primary
poem:verse
war:battle

dog:canine
large:giant
create:invent
second:secondary
prose:story
peace:harmony

Part to Whole Relationship:

panel:door
cat:lion
Ohio:U.S.A.
nut:shell
antler:deer
arm:body

pane:window
dog:terrier
Ontario:Canada
pea:pod
tusk:elephant
tire:auto

Antonym Relationship:

black:white
start:stop
day:night
cat:mouse
spring:fall
left:right

dark:light
advance:halt
sun:moon
spider:fly
morning:evening
high:low

Part to Part Relationship:

hand:elbow
Edward:Ed
son:father
stripes:spots
sea:coast
paw:ear

foot:knee
Susan:Sue
daughter:mother
zebra:leopard
river:bank
leaf:root

Place Relationship:

mitten:hand
roses:vase
lion:cage
land:rivers
plane:hangar
stem:flower

sock:foot
water:pitcher
book:bookcase
body:veins
auto:garage
trunk:tree

Action to Object Relationship:

pen:author
meow:cat
teach:teacher
cut:paper
hop:rabbit
swim:man

brush:painter
bark:dog
sew:seamstress
tear:cloth
slither:snake
float:duck

Degree Relationship:

pink:red
baby:adult
creek:river
poodle:collie
auto:horse
home:cave

hurt:pain
puppy:dog
hill:mountain
catfish:shark
telegram:telephone
freezer:ice box

Characteristic Relationship:

rich:money	well:health
detective:clue	scientist:fact
common:dog	rare:whale
minister:kind	warrior:cruel
man:masculine	woman:feminine
TV:tube	chair:leg

Grammatical Relationship:

sit:sat	break:broke
large:larger	pretty:prettiest
cow's:horse's	our:your
hope:hopeful	seven:seventeen
win:won	give:gave
man:men	woman:women

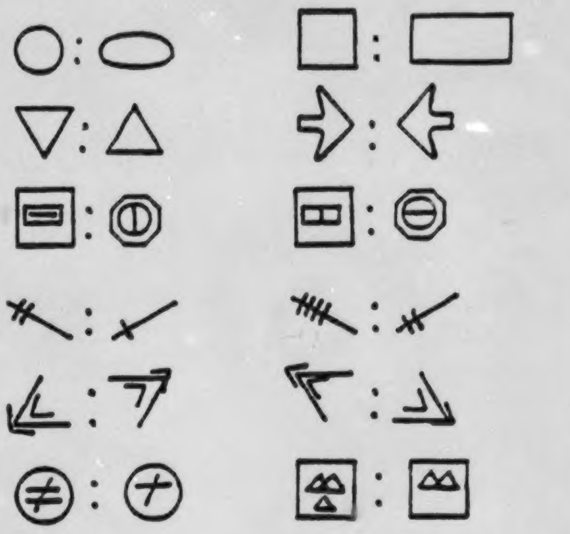
Numerical Relationship:

2:4	6:12
100:10	50:5
10%:4	30%:12
1/16:1/8	1/4:1/2
7:49	6:36
8:10	52:54

Association Relationship:

lipstick:woman	chopsticks:China
love:moon	card:gift
note:writing	pencil:lead
ring:wedding	cross:Christ
4:square	3:triangle
cage:bars	building:bricks

Object (graphic) Relationships:



RELATED ITEMS

---

boots-saddle
first-second
blouse-skirt
silk-satin
rose-thorn
toothpaste-brush
collar-leash
grape-raisin
television-antenna
ring-finger
circus-clown
stop-go
volcano-lava
lettuce-tomato
cake-cookies
artist-brush
sand-box
fireplace-log
deer-fawn
potter-clay
sword-shield
miner-coal
canary-yellow
Christmas tree-lights
glasses-eyes
black-blue
trick-treat
robin-worm
smoke-fire
igloo-Eskimo
kite-tail
washer-dryer
library-books
soup-sandwich
magazine-newspaper
magician-rabbit
monkey-banana
month-year
sharp-flat
mouse-cheese
nut-shell
horse-buggy
pail-shovel
quart-gallon
chop suey-rice
telephone-telegraph
bank-money
bubble-pipe

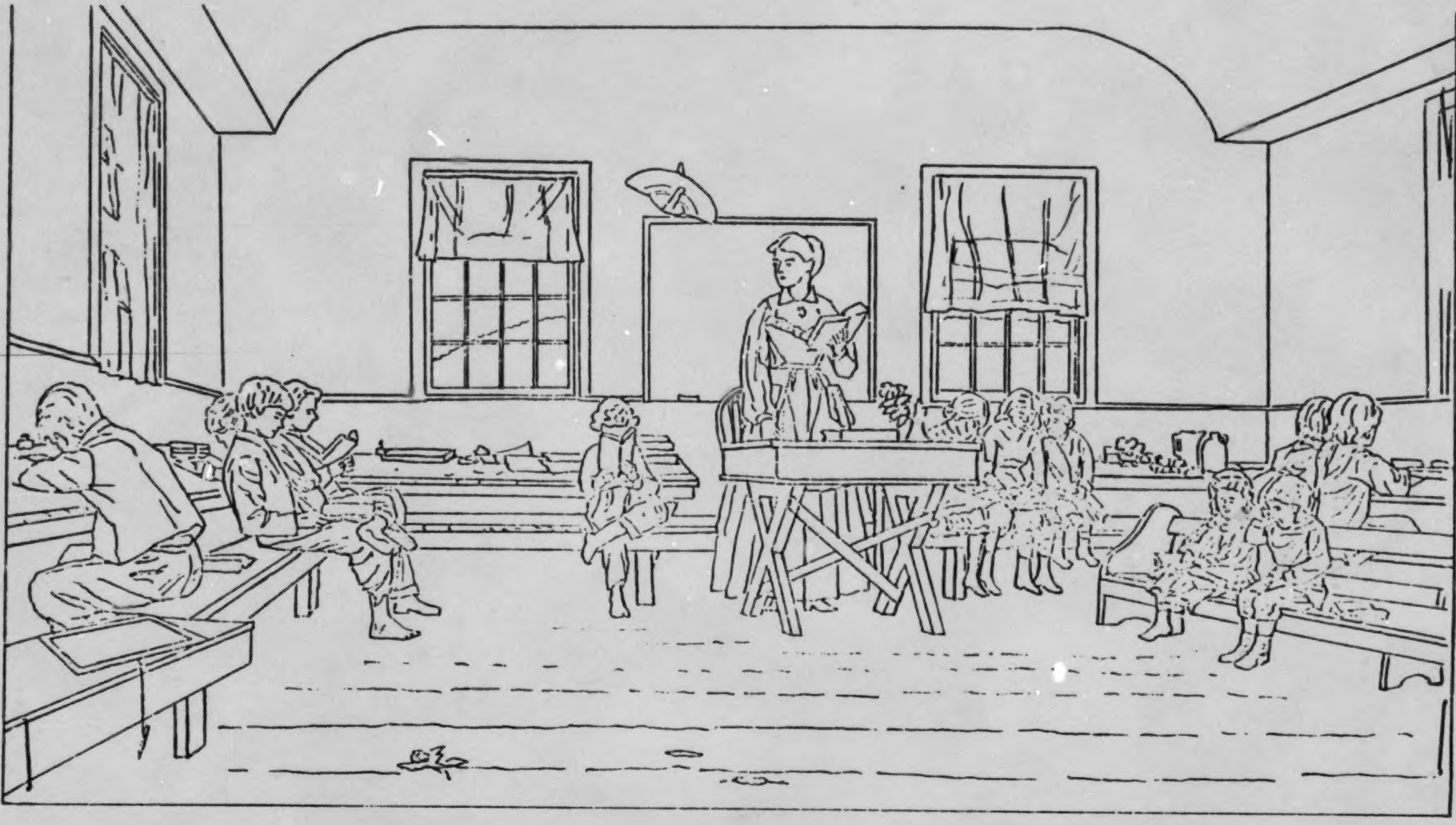
shell-sea
shelf-wall
shirt-slacks
ski-pole
smoke-fire
stars-stripes
plum-prune
ladder-rung
attic-basement
lion-tiger
paper-pencil
butterfly-net
apartment-building
wagon-wheel
bear-honey
mechanic-car
window-frame
food-water
bride-groom
coal-tar
tennis-racket
tulip-bulb
heart-red
horse-carriage
broom-dustpan
fur-coat
rod-reel
heart-valentine
Thanksgiving-turkey
pen-ink
sheep-wool
staple-stapler
tea-kettle
nut-nutcracker
bicycle-pedal
mirror-glass
day-week
hotel-motel
piano-keys
tusk-horn
onion-skin
peach-pit
fish-pole
rake-leaves
refrigerator-stove
baby-crib
dollars-cents
parrot-cracker

bottle-cap
turtle-shell
street-sidewal
laugh-cry
square-cube
lamp-shade
bird-cage
trunk-tree
shirt-tie
desert-cactus
clock-calendar
hair-shampoo
ski-slope
salad-dressing
minister-church
angel-harp
floor-ceiling
bear-cub
tree-forest
knight-armor
judge-jury
mouse-trap
prisoner-jail
Indian-teepee
1776-1976
plants-animals
baby-bottle
planet-earth
grass-mower
ball-jacks
cat-mouse
lemon-lime
road-map
match-flame
meat-potatoes
puzzle-piece
peas-carrots
nose-throat
skelton-bone
east-west
pig-pen
sweet-sour
question-answer
ribbon-bow
cowboy-rodeo
needle-thread
pick-shovel
cream-sugar

head-shoulders
bird-feather
bricks-mortar
hotdog-bun
key-lock
floor-tile
multiply-divide
doughnut-hole
alphabet-letter
bird-nest
witch-broom
bread-butter
mailbox-letter
socks-shoes
hen-eggs
radio-television
cream-butter
thunder-lightning
sister-brother
king-queen
black-white
canoe-paddle
fish-bowl
spider-web
sunlight-shadow
ice-snow
Santa-sleigh

sink-tub
broom-sweep
church-steeple
mop-pail
camel-hump
cheese-crackers
town-country
drum-bugle
astronaut-rocket
tick-tock
coat-hanger
pen-pencil
lion-cage
hat-coat
rain-umbrella
candle-light bulb
soap-water
plant-pot
sun-moon
bat-ball
clouds-sky
day-night
toast-toaster
sail-boat
boy-girl
flower-stem
hearts-flowers

add-subtract
birthday-party
bud-flower
mustard-relish
zoo-animals
stamp-pad
paint-brush
envelope-stamp
squirrel-acorn
minute-hour
mittens-scarf
knife-fork
cup-saucer
toast-toaster
table-chair
coffee-tea
nickel-dime
mother-father
red-blue
flag-pole
cat-dog
picture-frame
fruit-cereal
cops-robbers
hill-dale
sugar-spice
mustard-relish



MATERIALS TO DEVELOP A-5

Basal Textbooks: Laidlaw, OCEANS AND ORBITS
"Key Item", pp. 86-91,
"Best Friend", pp. 96-115.

Economy, LINESCAPES
"South Town", pp. 26-37,
"Dark They Were and Golden-Eyed, pp. 167-185,
"The Wolf of Thunder Mountain", pp. 40-57.

Scot Foresman, DIMENSIONS
"Icaras", pp. 114-115,
"The Way Through The Woods", p. 163,
"Thomas Jefferson", pp. 316-317,
"The Little Pharoah", pp. 370-385.

Workbooks: Economy, THOUGHTVAULT, pp. 29-30, 33-34, 50, 62-63.
Cambridge, READING AND ACHIEVING, pp. 15, 45-46, 105-108.
Prentice-Hall, BE A BETTER READER I, pp. 40-41, 60-61,
130-131.

Worksheets: Taskmaster 7^2, pp. 1-12.

Unit

B-1

TABLE OF CONTENT

Page

- Why Teach Critical Reading? 341
- Objective B-1. 342
- Why Students Have Difficulty in Solving Problems 343
- Rules For a Valid Syllogism. 343
- Major Premise/Minor Premise Right? Wrong?. 344
  - Background For Teacher. 345
    - Activities 346-356
      - Worksheet #1. 357
      - Transparency #1 358
      - Transparency #2 359
      - Transparency #3 360
      - Worksheet #2. 361-363
      - Worksheet #3. 364-365
      - Worksheet #4. 366-370
- 1 or 2 Major Premises/Minor Premises Right? Wrong? 371
  - Background For Teacher. 372
    - Activities 373-384
      - Worksheet #1. 385
      - Transparency #1 386
        - Overlay #1 387
      - Transparency #2 388
      - Transparency #3 389
      - Transparency #4 390
      - Worksheet #2. 391-394
      - Worksheet #3. 395-398
      - Worksheet #4. 399-400
      - Transparency #5 401
        - Overlay #1 402
      - Gameboard 403
      - Worksheet #5. 404-407
      - Transparency #6 408
        - Overlay #1 409
        - Overlay #2 410
      - Worksheet #6. 411-413
      - Worksheet #7. 414-421
      - Gameboard #2. 422
      - Worksheet #8. 423-425
- 1 Major Premise/1 Minor Premise Right? Wrong? Indeterminate?. 426
  - Background For Teacher. 427
    - Activities 427-442
      - Transparency #1 443
      - Transparency #2 444
      - Gameboard #1. 445
      - Transparency #3 446
      - Transparency #4 447
      - Transparency #5 448
      - Transparency #6 449
      - Transparency #7 450
      - Transparency #8 451
      - Gameboard #2. 452
      - Worksheet #1. 453-455
      - Worksheet #2. 456-462
      - Twisterboard. 463

Table of Content (continued)

Page
Worksheet #3. 464-465
Worksheet #4. 466-468

Conclusion/Embedded in Context 469

Background For Teacher. 470
Activities 470-472
Worksheet #1. 473-475
Activities 476-484
Transparency #1 485
Transparency #2 486
Overlay #1 487
Overlay #2 488
Transparency #3 489
Worksheet #3. 490-491
Gameboard #1. 492
Gameboard #2. 493
Gameboard #3. 494
Gameboard #4. 495
Worksheet #4. 496-498

Materials to Develop B-1 499

WHY TEACH CRITICAL READING?

Probably the most neglected skills in teaching comprehension, but probably the most important, are the critical reading skills. In the past, these skills have generally been handled in a hodgepodge, and student comprehension scores show it. Beyond teaching some education cause-effect relationships and predicting outcomes, the educational system has failed to provide the student with the appropriate tools for reasoning through a problem.

Fortunately or unfortunately, as the case may be, this has not been the fault of the teacher. Most curriculum materials fail to treat this area. However, with the substantial input from research, literature, teachers, and specialists in the area of reading; we will develop critical reading.

OBJECTIVE B - 1

Given a selection, the student will identify the relationship between the major and minor premise and state whether the conclusion is a fallacy in reasoning.

PURPOSE

Although the printed page presents the same words to each reader, each person emerges with a somewhat different impression of what the author has said. Attitudes, a basic understanding, and intelligence influence interpretation because the individual reads with with his emotions as well as his mind.

One may help students to think and question the material carefully by giving them practice in reading to answer thought questions, reading to discover implied as well as explicit meanings, reading to apply content to new situations, and reading for the purpose of solving problems or drawing conclusions.

In order to state whether a conclusion is a fallacy in reasoning, a progression of reasoning skills must envelop one's mind to augment a logical argument.

METHOD

The reasoning between major and minor premises, or syllogistic reasoning, involves the student's ability to see the relationship between the two terms and the constraints that follow in making a conclusion based on that relationship. The method employed in this unit will be the foundations of the reasoning strand as designed by Wisconsin Design for Reading Skill Development.

The method is as follows:

I. The student determines whether a conclusion to a syllogism that has one major and one minor premise is right or wrong.

II. The student determines whether a conclusion to a syllogism that has one or two major premises and one minor premise, either in or out of order, is right or wrong.

III. The student determines whether a conclusion to a syllogism that has one major and one minor premise is right, wrong, or indeterminate.

IV. The student identifies the correct conclusion to a syllogism with one major and one minor premise embedded in context.

WHY STUDENTS HAVE DIFFICULTY IN SOLVING PROBLEMS

1. Many of the students have great difficulty in ascertaining what they are required to do. They do not fully comprehend the nature of the problem and do not quite see how to proceed. To a large extent, this difficulty results from the speed and carelessness with which they read and the indadequate attention they give to the directions.

2. Another major source of difficulty for these students is their lack of objectivity in dealing with problems. Each problem takes on an emotional coloring which handicaps them rather severely. These emotional aspects of problem-solving are serious and must be overcome if the individual is to do thinking and problem-solving anywhere near the level of which he is capable.

3. Another source of difficulty is the inability of the student to reason logically and systematically. Many of these students seem to grope blindly toward a solution. Their problem-solving is characterized by feelings, hunches, and guesses. They are rarely confident of the solution they have reached and are not at all clear how they arrived at it.

4. Another frequent source of difficulty is inability to complete a chain of reasoning. The student starts very nicely and is able to go through several steps in the reasoning process. Then, for some unknown reason, he is unable to continue with the implications of the reasoning process he has started.

RULES FOR A VALID SYLLOGISM

1. A syllogism must have exactly three terms.
2. Two negative premises yield no conclusion.
3. Two positive premises yield a positive conclusion.
4. From a positive and a negative premise, only a negative conclusion follows.
5. The term that occurs in both premises must be modified by the words "all" or "none" at least once.
6. A term that occurs in the conclusion modified by "all" or "none" must also be modified by "all" or "none" in the premise.

Major Premise

Minor Premise

Right? Wrong?

I. Background for Teacher

A. What is a syllogism?

1. A syllogism is a logical argument or "word problem" consisting of three parts.
    - a. A statement of relationship between two terms.
      Example: All poodles are dogs.
    - b. A specific instance of either of the two terms or the negation of either of the terms.
      Example: Sully is a poodle.
    - c. A conclusion based on the terms.
      Example: Sully is a dog.
2. Two kinds of syllogisms.
    - a. Traditional
      Example: All bananas are fruit.
    - b. Conditional - worded like cause-effect relationships.
      Example: If it rains, then the children will play indoors.
3. Rules to determine whether a conclusion will be right, wrong, or indeterminate.
    - a. If an instance of the first term is given, the conclusion will be either right or wrong. (Sully is a poodle.)
    - b. If an instance of the negation of the first term is given, the conclusion will be indeterminate (can't say). (Sully is not a poodle.)
    - c. If an instance of the second term is given, the conclusion will be indeterminate. (Sully is a dog.)
    - d. If an instance of the negation of the second term is given, the conclusion will be either right or wrong. (Sully is not a dog.)
4. Syllogisms to avoid in this step of our procedure.
    - a. Syllogisms with indeterminate conclusions.
    - b. Syllogisms in which the relationship is one with which the students are already highly familiar.
      Example: When you turn on a water faucet, water comes out.
    - c. Nonsense syllogisms such as, "If Bill is tall, then Joe is smart."
    - d. Conditional syllogisms in which the terms of the statement are in reversed order.
      Example: "Kim eats candy whenever she's nervous." The proper order is "Whenever she's nervous, Kelly eats candy."
    - e. Syllogisms in which the relationship between the terms can work both ways.
      Example: "All men are homosapiens" and "All homosapiens are men."

f. Syllogisms which are clearly untrue.

Example: All fat men have wooden legs.

B. Procedure involved in determining whether a conclusion to a syllogism that has one major and one minor premise is right or wrong.

1. The student identifies a statement of relationship between two terms and understands the role of the major premise in a syllogism.

a. Materials: chalkboard, chalk

Procedure: Inform the class that they are going to work on some word problems, called syllogisms. Say that by reading words and thinking about them carefully, they can learn to solve word problems. Explain that a very important part of a word problem is called the major premise. The major premise is a special kind of sentence. Write "All cats hate to swim" on the chalkboard. Explain that this sentence is a major premise. It is a sentence that says if one thing happens, another happens too. Explain that "All cats hate to swim" says "If something is a cat, it will hate to swim". Discuss the sequence of events described by the major premise with the class. Write on the chalkboard, "Whenever Tim whistles, his dog comes to him", and discuss it following the above procedure. Stress that a major premise describes an important sequence of events or relationship in word problems or syllogisms.

b. Materials: Worksheet 1

Procedure: Do the example with the class. Tell them to think carefully about what the major premises say. Do the worksheets independently. The answers should be discussed.

Answers: Example, b; 1. b; 2. a; 3. c; 4. b; 5. a

c. Materials: Chalkboard, chalk, paper, pencils, safety pins.

Procedure: Tell the class that they use major premises every day. Remind them that major premises are sentences that describe a sequence of events or make a general statement or relationship. Give the following examples:

"All dogs are animals."

"All my pencils are sharpened."

"Whenever I clap my hands, my dog dances."

Write the following patterns for major premises on the board in a conspicuous place:

All __________ are __________.

If __________ then __________.

Whenever __________, __________.

When __________, __________.

Every __________, __________.

Point out that major premises are usually worded like the sentences on the board. Read each of the sentence patterns to the class. Tell the class they are going to play a game all day. Explain that they are going to listen carefully all day for major premises. Listen carefully to each other, and to their teachers. Watch carefully for major premises in their reading materials. Explain that every time they hear or see a major premise, they should write it down and bring it to the teacher. If he correctly identifies a major premise, he gets to pin a safety pin on his clothing. The student with the most safety pins at the end of the day becomes the major premise champion for the day.

Some students may write selected major premises on the chalkboard, and at the end of the day discuss the sequence of events or relationships described in the major premises collected.

d. Materials: Transparency 1, overhead projector, chalkboard, chalk.

Procedure: Write the five sentence patterns as described above on the chalkboard. Project the transparency and read each set of sentences. The class should identify the major premise in each set. The responses should be discussed.

Answers: 1. When I have a cold; I take aspirin; 2. All my sisters have had the measles; 3. If the mouse touches the trap, it will snap; 4. Whenever Zeke gets mad, he stomps his foot; 5. Every Friday, the garbage man comes to pick up the trash.

e. Materials: None

Procedure: Tell the class to listen carefully for major premises that their parents or friends may use. Suggest that they write them down and bring them to school to share with the class. Encourage them to examine television and newspaper advertisements for major premises. These should be shared with the class on a daily basis and the sequence of events or relationships described should be discussed.

2. The student learns to identify a minor premise and understand the role of the minor premise in a syllogism.

   a. Materials: chalkboard, chalk

   Procedure: Recall that a major premise describes a sequence of events or a general statement of relationship. Ask the class to generate some major premises.

   Example: "Whenever Billy goes to the zoo, he buys some fish to feed the seals."

   Write the major premises on the chalkboard. Remind the class that a major premise is a very important part of a word problem, but there are other important parts of the word problem too. Select one of the major premises generated by the class and write an instance or example of the first term beneath it on the chalkboard.

   Example: for "Whenever Billy goes to the zoo, he buys some fish to feed the seals." Write "Billy is going to the zoo."

   Read the minor premise aloud as the class reads it silently. Tell the class that this represents a second important part of a word problem, called the minor premise. Tell the class that the minor premise is a sentence that says the first event happened or the second event didn't happen. Identify the event of the major premise referred to and circle it on the board. Discuss the importance of the minor premise in determining conclusions. Explain that what the major premise says when one event happens, a second event happens too. If the minor premise says the first event happened, a right conclusion will say the second happened. If the minor premise says the second event didn't happen, a right conclusion will say the first didn't happen. Discuss several of the premises generated by the class, following the same procedure.

   b. Materials: Problems written on individual cardboard squares and laminated, grease pencil.

   Procedure: Remind the class that a major premise either describes a sequence of events or a relationship, and that a minor premise says that either the first event happened or the second event did not happen.

   The student reads the problem cards independently and does what the instructions tell him to do. The responses should be discussed.

Generate additional items to provide further practice in identifying the minor premise.

Answers: 1. Jill is eating spaghetti; 2. It is 6:35 in the morning; 3. Mark is not playing street ball; 4. I am going to the swimming pool; 5. This pen isn't red; 6. This pen is black.

Problems:

1. Place an X by the minor premise that says the first event in the major premise happened.

   Whenever Jill eats spaghetti, she wears a bib.

   Jill is eating spaghetti. _____
   Jill is not eating spaghetti. _____
   Jill is wearing a bib. _____
   Jill is not wearing a bib. _____

2. Place an X by the minor premise that says the first event in the major premise happened.

   Every morning at 6:35 the Cedar Avenue bus goes by our house.

   The Cedar Avenue bus just went by our house. _____
   It is 8:30 in the morning. _____
   It is 6:35 in the morning. _____
   The Wilson Street bus just went by our house. _____

3. Place an X by the minor premise that says the second event in the major premise didn't happen.

   Every Friday night, Mark plays street ball.

   It is Friday night. _____
   Mark is playing street ball. _____
   Mark is not playing street ball. _____
   It is Monday night. _____

4. Place an X by the minor premise that says the second event in the major premise didn't happen.

   If it rains, I won't go to the swimming pool.

   It is snowing. _____
   I am going to the swimming pool. _____
   I am not going to the swimming pool. _____
   It is raining. _____

5. Place an X by the minor premise that says the second event in the major premise didn't happen.

All the pens in my desk are red.

This pen isn't red. ____

This pen is in Mary's desk. ____

This pen is red. ____

This pen is in my desk. ____

6. Place an X by the minor premise that says the second event in the major premise didn't happen.

All the pens in my desk are red.

This pen is red. ____

This pen is in Mary's desk. ____

This pen is in my desk. ____

This pen is black. ____

c. Materials: Transparencies 2 and 3, overhead projector, grease pencil.

Procedure: Remind the class of the three parts of the word problems. Project the first transparency. Read the syllogism aloud as the class reads it to themselves. Ask one of the students to identify the major premise. He should say, "All the plants in Ann's yard have flowers on them." Draw a single line under the major premise. Have another student identify the minor premise. Response should be, "The prettiest plant is by her back door." Draw a double line beneath the sentence. Ask the student to identify what is said in the minor premise. Discuss why the conclusion given is appropriate. Project transparency 3 following the same procedure. The responses should be discussed.

Answers:

1. All the plants in Ann's yard have flowers on them.
   The prettiest plant is by her back door.

2. All the furniture in room 10 is green.
   Ellen's desk is not green.

3. Every Tuesday night, Mr. Walter cooks dinner for the whole family.
   Mr. Walter will not cook dinner tonight.

4. When Jack goes to basketball games, he takes a taxi.
   Jack went to a basketball game last night.

3. The student learns to use given information to determine whether a conclusion is right or wrong.

   a. Materials: Labels, box, five red marbles, five yellow marbles, five black marbles, chalkboard, chalk, tape.

   Procedure: Tell the class that they are going to play some word games. Write on the chalkboard, "All the marbles in the box are red. John's marble is in the box. John's marble is not red." Give the box with five red marbles, a yellow marble and two black marbles in it to one of the students. Tell the student to listen carefully as he reads the word problem on the board. Tell the student to do whatever is necessary to make the sentence true. Say, "All the marbles in the box are red." The student should remove the two black and one yellow marble from the box. Say, "John's marble is in the box", and tell the student to do something to the marbles to make the statement true. The student should label one of the marbles in the box "John's". Say, "John's marble is not red", and tell the student to look at the marbles in the box and decide whether the conclusion is right or wrong. The student should respond that it is wrong.

   Give additional students boxes of marbles. Follow the procedure described above, using the following syllogisms and materials:

   (1) Box: Four yellow marbles, three red marbles.
   Syllogism: "All the marbles in the box are yellow. John's marble is black. John's marble is not in the box."
   Correct responses: All the marbles in the box are yellow: the student should remove the three red marbles from the box. John's marble is black: The student should label all the marbles in the box "not John's". John's marble is not in the box: right.

   (2) Box: Two black marbles, two red marbles, one yellow marble.
   Syllogism: "All the marbles in the box are black. John's marble is in the box. John's marble is not black."
   Correct responses: All the marbles in the box are black: the student should remove the two red marbles and the one yellow marble from the box. John's marble is in the box: the student should label one of the marbles in the box

"John's". John's marble is not black: wrong.

(3) Box: Three red marbles, two yellow marbles.

Syllogism: "All the marbles in the box are red. John's marble is black. John's marble is in the box."

Correct responses: All the marbles in the box are red: the student should remove the two yellow marbles from the box. John's marble is black: the student should label all the marbles in the box "not John's". John's marble is in the box: wrong.

(4) Box: Three red marbles, two black marbles, one yellow marble.

Syllogism: "Every marble in the box is red. John's marble is blue. John's marble is in the box."

Correct responses: Every marble in the box is red: the student should remove the two black marbles and the one yellow marble from the box. John's marble is blue: the student should label all the marbles in the box "not John's". John's marble is in the box: wrong.

The responses for each item should be discussed. Point out that sometimes syllogisms are difficult to understand. Explain that seeing or drawing what is being said in the syllogism often helps in understanding the problems. Emphasize that the student should feel free to draw out a syllogism to help him in determining whether a conclusion is right or wrong.

A follow-up activity might be a discussion of the major and minor premises for each of the above syllogisms. The students should identify whether the minor premise says the first event happened or whether it says the second event did not happen. Discuss the kinds of conclusions that follow specific minor premises.

b. Materials: A deck of thirty cards (ten of the cards with +1 written on them, ten with -2, and ten with happy faces drawn on them).

Procedure: Tell three or four students that they are going to play a card game with syllogisms. The cards are shuffled and stacked facedown in front of the students. Explain the rules of the game to the students. Tell them:

1. Every time you draw a +1 card, you get 1 point.
2. Whenever you draw a -2 card, you subtract 2 points.
3. Whenever you draw a "happy face", you can either add or subtract 1 point.

Explain that the goal of the game is to reach a total of exactly 5 points. The first student to reach 5 wins the game.

Write the three rules on the chalkboard so the students can refer to them when necessary.

Students take turns drawing cards from the deck. They play until one of the students attains a score of 5.

Quiz the students' understanding of the syllogisms by asking the following questions:

1. Whenever you draw a -2 card, you subtract 2 points. John just drew a -2 card. Should John subtract 2 points?

   or

2. Every time you draw a +1 card, you get 1 point. John's card doesn't give him 1 point. Did John draw a +1 card?

At the end of the game, discuss how the three rules of the game were all syllogisms. Stress that they must have an understanding of syllogisms to play the game.

c. Materials: Problems, chalkboard, chalk.

Procedure: Explain that they are going to work on some more word problems, or syllogisms. Read a problem to the class. Example: "All the people in the boat are fishing. Bill's brother, John, is in the boat. John is fishing." Reread each sentence in the problem, illustrating the sentence as you read it. "All the people in the boat are fishing." Draw the outline of a boat. Then draw two or three people in the boat, fishing. Read the second sentence, "John is in the boat." Label one of the people "John". Reread the conclusion. "John is fishing." Ask the students to look at the drawing. Ask the students to determine, based on what they see in the drawing, wether the conclusion is right or wrong.

Read the additional problems following the same procedure. Students may draw some of the later problems. They should identify the major and minor premises in each syllogism and discuss why the conclusion is right or wrong.

Teacher Reads	**Teacher Draws**
1. All the pets in the wagon are dogs. Kim's pet is in the wagon. Kim's pet is a dog. (right)	1. a. draw a wagon b. draw two or three dogs in the wagon c. label one "Kim's pet"
2. All the pencils on the table have been sharpened. Bill's pencil is not sharpened. Bill's pencil is not on the table. (right)	2. a. draw three sharpened pencils on a table b. label all pencils "not Bill's" (the teacher points out that Bill's pencil has not been sharpened; any pencil that has been sharpened cannot be Bill's, therefore Bill's pencil cannot be on the table)
3. All the houses on the lake have docks. Kelly's house does not have a dock. Kelly's house is on the lake. (wrong)	3. a. draw a lake b. draw three or four houses with docks along the lake edge c. label all houses "not Kelly's" (see item 2 for explanation)
4. Every plate on the table is cracked. Joel's plate is on the table. Joel's plate is not cracked. (wrong)	4. a. draw a table top b. draw two or three cracked plates on the table c. label one of the plates "Joel's"
5. Every cup on the table has a broken handle. The blue and white cup doesn't have a broken handle. The blue and white cup is not on the table. (right)	5. a. draw a table top b. draw two or three cups with broken handles c. label all the cups "not blue and white"

d. **Materials:** Worksheets 3, 4 and 5; pencils

Procedure: Do the example with the class. The students may do the worksheets independently. Their answers should be discussed. Remind the class that:

(1) If the minor premise says the first event in the major premise happened, a right conclusion will say the second event in the major premise happened.

(2) If the minor premise says the second event in the major premise didn't happen, a right conclusion will say the first event in the major premise didn't happen.

Answers: Example, right; 1. right; 2. wrong; 3. wrong; 4. wrong; 5. wrong; 6. right; 7. wrong; 8. wrong; 9. right; 10. right.

4. The student solves syllogisms that include an extraneous sentence - a sentence that gives additional information and yet doesn't contribute to identifying whether the conclusion is right or wrong.

a. **Materials:** Worksheets 6 and 7; blue, yellow, green, and black crayons, chalkboard, chalk.

Procedure: Remind the class of the three basic parts of a syllogism. Tell the class that very often when we see syllogisms in newspapers, in textbooks, or when we hear them on television, there is extra information given that really isn't part of the word problem itself. Tell the class that it's important to be able to identify this extra information. Explain to the class that this extra information doesn't help determine whether the conclusion is right or wrong. Explain that sometimes it may even confuse them when they try to determine the conclusion.

Write the following syllogism on the chalkboard: "Jack and Dale sleep in a tent. This weekend they are camping. They will not sleep in a tent." Ask the class to identify the major premise. The class should respond, "Whenever they go camping, Jack and Dale sleep in a tent." Draw a line under the major premise. Ask the class to identify the minor premise. They should respond, "This weekend they are camping", draw a double line under it. Ask the class to identify the conclusion. They should respond, "They will not sleep in a tent", draw a triple line under it. Finally, ask the class to identify the the sentence that gives information, but isn't part of the syllogism. The class should respond, "Jack and Dale like the mountains." Draw X's through the sentence that doesn't contribute to identifying whether the conclusion is right or wrong. Ask the class whether the conclusion is right or wrong. The class should respond that it is wrong.

Tell the class to do the worksheets independently. The answers should be discussed. Review the kind of conclusion that will follow specific minor premises.

Answers:

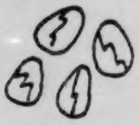
1. blue: When Tim makes a snowman, he uses coal for the eyes; yellow: Tim is making a snowman; black: George helps him. (wrong)
2. blue: When Gene collects over $30, he will buy new equipment for the team; yellow: Gene has collected $42; black: Now they only have one ball and bat. (right)
3. blue: When Martin delivers newspapers, he gets up at four in the morning; yellow: This morning Martin slept until seven; black: He collects once a month from his customers. (wrong)
4. blue: When Amy goes on a hike, she wears tennis shoes; yellow: Amy is wearing sandals; black: Mrs. Miller's class likes to be outdoors. (wrong)
5. blue: When the train is late, John takes a bus to work; yellow: Yesterday John took the train to work; black: He goes to a large building in another city. (right)

b. Materials: Worksheets 8, 9, 10, 11 and 12; pencils.
Procedure: Do the example with the class. They may do the worksheets independently. The answers should be discussed. Select three or four items and have the class identify the major and minor premises. The students should identify whether the minor premises say the first event in the major premise happened or whether it says the second event in the major premise didn't happen. A discussion of the kind of conclusions appropriate to specific minor premises should follow.
Answers: Example, right; 1. right; 2. wrong; 3. wrong; 4. wrong; 5. right; 6. right; 7. wrong; 8. right; 9. wrong; 10. right; 11. right; 12. wrong; 13. wrong; 14. wrong; 15. right.

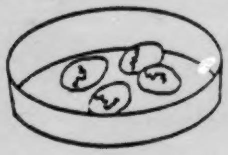
DIRECTIONS: Read each of the major premises. Then circle the letter under the picture that shows what you read in each major premise.

Example

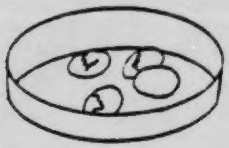
All the eggs in the dish are cracked.



A

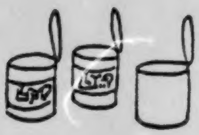


B



C

1. All the open cans have labels.



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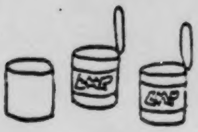
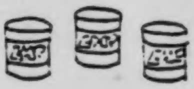
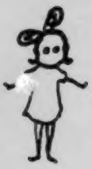


B

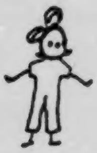


C

2. When Sandy wears a dress, she puts a ribbon in her hair.



A



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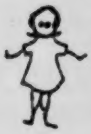
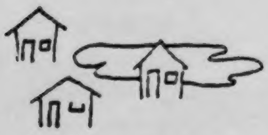


C

3. Every house on the lake has a chimney.



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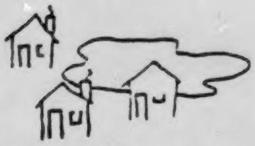

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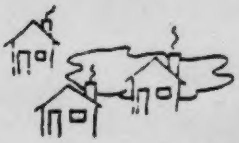
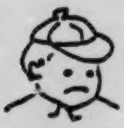


C

4. When Tom is happy, he wears his cap.



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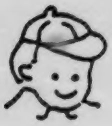
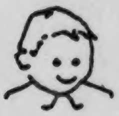
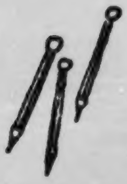


B

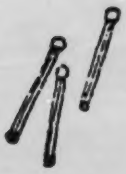


C

5. All the pencils are sharpened.



A



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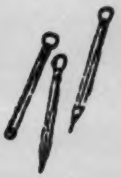


C

TRANSPARENCY 1

1.	I'm sick.	When I have a cold, I take aspirin.	I have a very bad cold.
2.	Joe has the chicken pox.	The cat is ill.	All my sisters have had the measles
3.	If the mouse touches the trap, it will snap.	Chester is my pet mouse.	Jeff's pet mouse likes to eat cheese and bread and butter.
4.	Zeke's mother bought him some new clothes for school.	Whenever Zeke gets mad, he stomps his foot.	Yesterday, Zeke made his own lunch.
5.	I like to watch the garbage man pick up the trash.	Sam, the garbage man, drives a big truck that makes lots of noise.	Every Friday, the garbage man comes to pick up the trash.

All the plants in Ann's yard have flowers on them.

The prettiest plant is by her back door.

The prettiest plant has flowers on it.

All the furniture in room 10 is green.

Ellen's desk is not green.

Ellen's desk is not in room 10.

Every Tuesday night, Mr. Walter cooks dinner for the whole family.

Mr. Walter will not cook dinner tonight.

Tonight is not Tuesday night.

When Jack goes to basketball games, he takes a taxi.

Jack went to a basketball game last night.

Jack took a taxi to the game.

WORKSHEET 2

DIRECTIONS: Read the syllogisms and decide whether each conclusion is right or wrong. Fill in the circle under Right if you think the conclusion is right, or fill in the circle under Wrong if you do not.

Example

Whenever Mr. and Mrs. Jay go to a movie, they ask Carol to baby-sit. Mr. and Mrs. Jay went to a movie.

Mr. and Mrs. Jay asked Carol to baby-sit. Right Wrong

1. All of Jane's old dresses are too small for her. Jane is wearing a dress that fits her.

   Jane doesn't have one of her old dresses on. Right Wrong

2. When Mike blows his whistle, his dog will roll over. Mike's dog is not rolling over.

   Mike is blowing his whistle. Right Wrong

3. All the older boys on the block are playing baseball. Tim and Scott are watching from the house.

   Tim and Scott are both older boys on the block. Right Wrong

4. Every Wednesday Dad drives the car to work. Today he is not driving the car to work.

   It is Wednesday. Right ○ Wrong ○

5. Whenever Teddy goes hunting, he hunts for wolves. Teddy is hunting.

   He is not hunting for wolves. Right ○ Wrong ○

6. All of the children in Mrs. May's class wear name tags. Kip doesn't wear a name tag.

   Kip isn't in Mrs. May's class. Right ○ Wrong ○

7. The day after it snows, Jane and Jim have a snow picnic by the lake. It snowed last night.

   Jane and Jim will not have a picnic today. Right ○ Wrong ○

8. On days when it's warm and sunny outside, Doug and David go to the park. Today it was warm and sunny outside.

   The boys played in the house. Right ○ Wrong ○

9. Whenever Marcia visits her friend Susan on the 11th floor, she rides the elevator. Marcia went up to see Susan.

Marcia took the elevator. Right ○ Wrong ○

10. Right after school each day, Sue takes her dog for a walk. Sue's dog is napping in the sunlight.

It's not right after school. Right ○ Wrong ○

WORKSHEET 3

DIRECTIONS: Read each of the syllogisms. Then for each problem, draw a blue line under the major premise. Draw a yellow line under the minor premise. Put a black line through the sentence that doesn't help you say whether the conclusion is right or wrong. Then decide whether the conclusion is right or wrong. Put your answer on the line provided.

1. When Tim makes a snowman, he uses coal for the eyes. George helps him. Tim is making a snowman.

   He will not use any coal. ____________________

2. When Gene collects over $30, he will buy new equipment for the team. Now they only have one ball and bat. Gene has collected $42.

   He will buy new equipment for the team. ____________________

3. When Martin delivers newspapers, he gets up at four in the morning. He collects once a month from his customers. This morning Martin slept until seven.

   Martin delivered papers this morning. ____________________

4. Mrs. Miller's class likes to be outdoors. When Amy goes on a hike, she wears tennis shoes. Amy is wearing sandals.

She is on a hike. ____________________

5. When the train is late, John takes a bus to work. He goes to a large building in another city. Yesterday John took the train to work.

The train was not late. ____________________

WORKSHEET 4

DIRECTIONS: Read the syllogisms and decide whether each conclusion is right or wrong. Fill in the circle under Right if you think the conclusion is right, or fill in the circle under Wrong if you do not.

Example
Every Tuesday night, Jenny goes to yoga class. It is held at the YWCA. Jenny did not go to yoga tonight.

It is not Tuesday. Right Wrong

1. During the first month of school each year, the mayor visits each school in our town. He spends about two hours talking with the teachers and the principal. Today is the first day of school.

   Right Wrong

   The mayor will be visiting our school this month.

2. We live close to the airport. Whenever an airplane flies over our house, the windows begin to rattle. Right now our windows are not rattling.

   Right Wrong

   Right now an airplane is flying over our house.

3. All the newspapers that John delivered had mud on them. John delivered a paper to Mr. Cane. Mr. Cane read it in the house.

   Mr. Cane's newspaper did not have mud on it. Right Wrong

4. Whenever the zoo keeper clapped his hands, the bears danced. The people smiled and watched. The bears just layed down and went to sleep.

   The zoo keeper just clapped his hands. Right Wrong

5. Everytime we plug a lamp into the outlet by the door, we burn out the light bulb. We turned on the lamp and the bulb didn't burn out. The light was bright.

   We didn't plug the lamp into the outlet by the door. Right Wrong

6. Every Friday, Mr. Stanley shows a movie in his science class. Last Friday we saw a movie about a butterfly. Today is Friday.

   Mr. Stanley will show a movie in science class today. Right Wrong

7. When Dan and Bob go swimming at the lake, they take a picnic lunch. The boys are swimming at the lake today. Dan and Bob are practicing for the swimming team.

They will have lunch at home. Right Wrong

8. If Danny got good grades in school this year, his father would buy him new golf clubs. Danny picked out the set he wanted at the store downtown. Danny's father didn't buy him the clubs.

Danny's grades weren't good. Right Wrong

9. We keep tissue in our room. All the tissues in Mrs. Nail's box are light blue. Ellen has a pick tissue.

She got her tissue from Mrs. Nail's box. Right Wrong

10. Every summer Edith's mother makes homemade jam. It's summer. The berries are already ripe.

Edith's mother will be making jam. Right Wrong

11. Whenever Emmy is nervous, she taps her foot. Tapping her foot makes her feel better. Emmy is not tapping her foot.

She is not nervous. Right Wrong

12. Mr. Blue works hard. On the days that he works in the factory, Mr. Blue carries a lunch. Mr. Blue is not taking his lunch today.

Today Mr. Blue is working in the factory. Right Wrong

13. Whenever Judy goes to the book store, she buys a book for her brother. She usually buys a book about animals. Today she went to the book store again.

Judy didn't buy a book for her brother. Right Wrong

14. Every Sunday, Denny's father gives him a quarter for his allowance. His older brother gets fifty cents. Yesterday was Sunday.

Denny didn't get any money from his father yesterday. Right Wrong

15. All the streets in Mayville need to be repaired. They are old and worn. We live on Pine Street in Mayville.

	Right	Wrong
We live on a street that needs to be repaired.	○	○

1 or 2

Major Premises

Minor Premise

Right? Wrong?

II. Background for Teacher

A. Syllogisms in this step may have the following properties.

1. Premises of the syllogism are reversed.

Example:

Jack is riding his bike to school now. When he rides his bike to school, Jack takes a shortcut through the park.

2. An additional term is introduced via a second major premise.

a. Traditional two-term:

Major	All poodles are dogs.
Minor	Sully is a poodle.
Conclusion	Sully is a dog.

b. Traditional three-term:

Major	All poodles are dogs.
Major	All dogs are mammals.
Minor	Sully is a poodle.
Conclusion	Sully is a mammal.

c. Conditional two-term:

Major	If it rains, then the children will play indoors.
Minor	It is raining today.
Conclusion	The children are playing indoors.

d. Conditional three-term:

Major	If it rains, then the children will play indoors.
Major	If the children play indoors today, they will play pic-up-stix.
Minor	It is raining today.
Conclusion	The children are playing pic-up-stix.

3. Means of determining items to be included in the exercises might be to:

a. Identify the statement(s) of relationship, including identifying the terms.

b. Identifying the term included in the minor premise.

c. Identify the conclusion.

d. Apply the rules to determine whether the conclusion would be right or wrong.

B. Procedure involved in determining whether a conclusion to a syllogism that has one or two major premises and one minor premise, either in or out of order is right or wrong.

1. The student reviews the three parts to a word problem.

a. **Materials:** None

Procedure: Review the three parts to a word problem, syllogism, that they studied in the first step of the procedure.

1 a. Major premise

2 b. Minor premise

3 c. Conclusion

b. Materials: Worksheet 1

Procedure: The class may do the worksheet independently. Their answers should be discussed. Discuss what is said in the minor premises and whether the conclusions are appropriate.

2. The student learns to use information given in a two-term syllogism with premises given in reversed order to determine whether a conclusion is right or wrong.

a. Materials: Transparency 1, Overlay 1, overhead projector.

Procedure: Project the left half of Transparency 1. The class may read the syllogism silently as you read it aloud. Identify "When Stuart watches television, he eats popcorn", as the major premise. Identify "Stuart is watching television", as the minor premise. Identify "Stuart is eating popcorn", as the conclusion. Explain that syllogisms are easier to understand when they occur in the order identified on the transparency - major premise, minor premise, then conclusion. Explain that in real life, however, syllogisms rarely occur in that order. Explain that they will probably have to read the word problems carefully and order them on their own to determine whether a conclusion is right or wrong.

b. Reveal the right half of Transparency 1. Explain that this is the very same syllogism, or word problem, as the one on the left. The only difference between the two is that the major and minor premises have changed places. Ask the class to identify whether the conclusion for the first syllogism is right or wrong. They should respond that it is right. Ask the class to identify whether the conclusion for the second syllogism is right or wrong. They should respond that it is right. Point out that the information and answers are the same for the two syllogisms. It is only the position of the premises in the syllogisms that varies.

c. Place the overlay on the transparency. Explain that now the syllogism on the right has an extra sentence that doesn't contribute to the word problem. Ask the class to identify the sentence that doesn't help determine whether the conclusion is right or wrong. They should respond, "His favorite show is 'Wonderful West', but it was cancelled because of a network special." Discuss why information in "His favorite show is 'Wonderful West', but it was cancelled because of a network special", is extra information that doesn't help determine whether the conclusion is right or wrong. Emphasize that sometimes they will have to identify and order the parts of the syllogism to help determine whether the conclusion is right or wrong. Stress that sometimes they will have to identify and ignore sentences that don't contribute to understanding the syllogism.

d. Materials: Transparencies 2, 3 and 4; overhead projector. Procedure: Project Transparency 2. The class may read the syllogism silently as you read it aloud. Tell the class that this syllogism has a major premise, a minor premise, and a conclusion. Explain that the parts are out of order. Ask a student to identify the major premise. He should respond, "Every bike in the bike rack at school was red." Ask a student to identify the minor premise. He should respond, "Jane's bike was parked in the bike rack at school." The class should identify the minor premise as saying the first term or event in the major premise happened. Ask the class to identify whether the statement "Jane's bike was not red", is right or wrong. The class should respond that it is wrong. Discuss the kind of conclusion that follows a minor premise that says the first event in the major premise happened.

e. Project the remaining transparencies, following the same procedure. The answers should be discussed.
Answers: 1. Major premise: Every bike in the bike rack at school was red; minor premise: Jane's bike was parked in the bike rack at school; wrong; 2. Major premise: Whenever Debbie fries eggs, the yolks are broken; minor premise: Debbie fried eggs this morning; right; 3. Major premise: Whenever Steve plays baseball, he wears his dad's old cap with the flip-up sunglasses on the brim; minor premise: Steve had caught a pop fly near the third base dugout; right.

f. Materials: Worksheets 2, 3, 4 and 5; pencils.
Procedure: Do the example with the children. The class may then do the worksheets independently. The answers should be discussed. Point out that occasionally it is easier to determine whether a conclusion is right or wrong if the reversed-order syllogism is re-ordered.

Answers: Example, major premise: All the shoes made at Zoom Shoe Company are shoes with squidgy soles; minor premise: Frank doesn't have a pair of shoes with squidgy soles; the second event did not happen; wrong. 1. Major premise: All the workmen at the Peter's Construction project wear hard hats; minor premise: Bill works on the Peter's Construction project; the first event happened; wrong. 2. Major premise: If Jane eats dill pickles, then the next day she has hives; minor premise: Jane does not have hives today; the second event did not happen; wrong. 3. Major premise: Whenever Earl and Jesse ride their bikes, they ask Robert to go along; minor premise: Earl and Jesse are riding their bikes today; the first event happened; right. 4. Major premise: Yesterday every student in science class looked at a leaf under the microscope; minor premise: Jane has not missed a science class all this year; the first event happened; right. 5. Major premise: When Frank goes to camp, he takes leatherwork lessons; minor premise: Last summer Frank did not take leatherwork lessons; the second event did not happen; right.

g. Materials: Worksheets 6, 7, 8 and 9; pencils.

Procedure: Cut the answers off the worksheets and staple them together as an answer booklet. Do the worksheets independently. They should check their own answers. The class may arrange the worksheets in booklet form and proceed through the booklet at their own rate. They need not complete the booklet at one sitting.

h. Materials: Worksheets 10 and 11; pencils.

Procedure: Do the example with the class. The class may do the worksheets independently. Their answers should be discussed.

Answers: Example, wrong; 1. wrong; 2. right; 3. right; 4. right; 5. right.

3. The student learns to use information given in a three-term syllogism to determine whether a conclusion is right or wrong.

Materials: Transparency 5, Overlay 1, overhead projector, grease pencil.

Procedure: Ask the class to think of something that happened today at school. Ask them to say what caused that to happen. The class will probably come up with a number of different causes. Discuss ways these different causes are related to each other and the event. Lead the students to the understanding that many things in life are not dependent on just one thing happening. Explain that many things are dependent on a chain of events happening - i.e., one thing leading to another. Place Overlay 1 on Transparency 5. Read the first syllogism on the transparency. Explain that this syllogism is different from the syllogisms seen before, in that there is a chain of events described here. The chain of events is described in two major premises. Draw a line under the two major premises, and ask the class to identify the sequence of events described. Tell the class that a chain of events is described in the two major premises. Explain that the two major premises are linked to each other by a repeated event. They should respond that it is "earning $1.00".

a. Ask the class to identify the minor premise in the first syllogism and describe what it says. Discuss whether the conclusion is right or wrong; they should respond that it is right and a discussion of why this is so should follow.

b. Progress through the remaining syllogisms, following the same procedure. The responses should be discussed. Stress that the two major premises are linked by a repeated event. Also stress that they need to think about the information in the first major premise and in the second major premise to help determine whether the conclusion is right or wrong.
Answers: 1. Sequence of events: not raining, earning $1.00, going to a movie; the minor premise says the first event happened; right. 2. Sequence of events: working in the orchard, taking 4 quarts of fruit home, mother canning fruit; the minor premise says the last event did not happen; wrong. 3. Sequence of events: getting job as stock boy, buying new bike, not riding bus all summer; the minor premise says the second event did not happen; wrong.

c. Materials: Gameboard 1; syllogisms recorded on index cards.
Procedure: The student reads the syllogism cards and places each syllogism in the appropriate square on the gameboard. The student's responses should be discussed.
Answers: 1. 5; II. 4; III. 3; IV. 2.

Syllogisms:

1. All the bikes in Bill's bike shop are Speedster bikes. Every Speedster bike is made in England. Sally bought her bicycle from Bill's bike shop.

   Sally bought an English-made bicycle.

2. Antonio needs lots of sleep. If he doesn't get enough rest, Antonio doesn't play football well. If Antonio doesn't play football well, he can't stay on the football team. Antonio is starting center for the football team tonight.

   Antonio did not get enough sleep last night.

3. If Elaine stays after school, she misses the school bus that goes by her house. If she misses the bus, Elaine has to walk and is late for supper. Elaine has been on time for supper this whole past month.

   Elaine hasn't had to stay after school lately.

4. If Flint forgets to bring his safety goggles for shop again, he won't learn to weld. If Flint doesn't learn to weld, he won't be able to fix the frame on his bicycle. Flint forgot his safety goggles again.

   Flint fixed the frame on his bike.

5. Lucy has been learning to play baritone horn on one of the school's instruments. If she learns to play well enough to make the band, her parents will buy her a horn of her own. Lucy's parents are quite poor, and baritone horns are expensive. If Lucy's parents buy her a horn, Lucy's dad will work overtime at the station to pay for it. Lucy made the band.

   Lucy's dad is working overtime.

d. Materials: Worksheets 12, 13, 14 and 15; pencils.
   Procedure: Cut the answers off the worksheets and staple them together as an answer booklet. Do the worksheets independently. They may check their own answers. They may arrange the worksheets in booklet form and proceed through the booklet at their own rate. They need not complete the booklet at one sitting.

4. The student learns to use information given in a three-term reversed-order syllogism to determine whether a conclusion is right or wrong.

   Materials: Transparency 6, Overlays 1 and 2, overhead projector, grease pencil.

Procedure: Project the transparency. The class may read the sentence silently as you read them aloud. Explain that syllogisms are easier to understand when they occur in the following order: first major premise, second major premise, minor premise, then conclusion. Explain that in real life, however, syllogisms don't always occur in this order. Explain that they will probably have to read and order the word problems on their own, to determine whether a conclusion is right or wrong. Tell the class that the two sentences on the transparency are both major premises. Ask the class to identify the events in the first sentence. Their responses should be "eating popcorn" and "sitting in leather chair". Ask the class to identify the two events in the second sentence. Their responses should be "watching TV" and "eating popcorn". Tell the class that the two major premises join together to describe a chain of events. Explain that the order of the chain of events can be identified when the order of the major premises is identified. Ask the class how they can determine the order of the major premises. Remind the class that the two major premises are linked to each other by a repeated event. Ask the class to identify the event that links the two major premises. The response should be "eating popcorn". Tell the class that the repeated event is the last event in the first major premise and first event in the second major premise. Explain to the class that by identifying the repeated event and its position in the major premises, they should be able to determine the order of the major premises.

a. Place Overlay 1 on the transparency. Ask the class to identify the first major premise. The response should be, "When Stuart watches television, he eats buttered popcorn." Write the premise on the lines provided. Ask the children to identify the second major premise. The class should respond, "When Stuart eats buttered popcorn, he sits in the old leather chair because his mother doesn't want greasy butter stains on the new furniture." Ask the class how they determined the order of the premises. The response should be "eating buttered popcorn" is the last event of "When Stuart watches television, he eats buttered popcorn" and the first event of "When Stuart eats popcorn, he sits in the old leather chair because his mother doesn't want greasy butter stains on the new furniture."

b. Place Overlay 2 on the transparency. Tell the class that one of the three additional sentences is a minor premise and one is an extraneous sentence. The underlined sentence is the conclusion. Ask the class to identify the minor premise. Their response should be, "Stuart is watching television." Ask how the children determined this as the minor premise. The response should be that "Stuart is watching television" says the first event in the first major premise happened. Ask if "Stuart is my brother" helps determine whether the conclusion is right or wrong. The response should be that it does not. Discuss why this is so. Ask the class to think about the conclusion that follows a minor premise that says the first event in the first major premise happened.

c. Ask the class to read the conclusion to see if it is right or wrong. The students should respond that it is wrong. Tell the class that thinking about the order of the premises and the order of the events described in the premises helps determine whether the conclusion is right or wrong.

d. Materials: Worksheets 16, 17 and 18; pencils.

Procedure: Do the worksheets independently. The answers should be discussed.

Answers: 1. 1st: If the price of out-of-state fishing licenses is raised, then tourist trade will be lost; 2nd: If tourist trade is lost by the businessmen in the fishing area, then they lose money; minor: Last winter the state raised the price of fishing licenses for out-of-state people; the first event happened; right. 2. 1st: All members of the Newport Teachers' Organization are members of the State Teachers' Group; 2nd: Members of the State Teachers' Group belong to the National Teachers' Coalition; minor: Mr. Franklin is a member of the Newport Teachers' Organization; the first event happened; wrong. 3. 1st: Whenever she made a poster, Eve made one that had a funny saying on it; 2nd: The only place that sells posters with funny sayings is Goode's Poster Shop; minor: Stella bought a poster at Ander's Book Store; the second event did not happen; wrong. 4. 1st: All of the typewriters at Smith High School were bought from Downtown Office Supply; 2nd: The only typewriters sold by Downtown Office Supply are Regal typewriters; minor: Sally is not typing with a Regal; the second event did not happen; right. 5. 1st: If the strike doesn't end today, Mrs. Wills will have to buy additional garbage cans; 2nd: If Mrs. Wills buys additional garbage cans, she will have to borrow money from Mr. Wills; minor: The garbage collectors' strike did not end today; the first event happened; right.

e. **Materials:** Worksheets 19, 20, 21, 22, 23, 24, 25 and 26; pencils.

Procedure: Cut the answers off the worksheets and staple them together as an answer booklet. The students then do the worksheets independently. They should check their own answers. They may arrange the worksheets in booklet form and proceed through the booklet at their own rate. They need not complete the booklet at one sitting.

5. The student learns to use information in two- and three-term straight and reversed-order syllogisms to determine whether a conclusion is right or wrong.

Materials: Gameboard 2, three or four toy cars, single die, syllogisms recorded on index cards (correct answer recorded on other side).

Procedure: Place the syllogism cards (syllogism side up) in the center of the gameboard. Three or four students take turns throwing the die and moving the number of spaces indicated. Whenever the child lands on a "penalty" square he draws a syllogism card. If he answers the syllogism correctly, he earns the space. If he doesn't answer correctly, he does what the space on which he landed tells him to do. The child who goes around the race track first wins the game.

Sample syllogism cards:

front	back
Sara is at the library. Whenever Sara needs pens, she goes to the bookstore on Stone Street. Sara is getting pens. Right or wrong?	wrong

If Steve covers his tomato plants, he won't rake leaves. If the forecast is for it to freeze tonight, Steve will cover his tomato plants. The weather announcer has just said the low for tonight will be about 30 degrees—two degrees below freezing.

Steve won't rake leaves tonight.

Right or wrong?

right

All the people who live on Bass Lake have boats. Mr. Tally doesn't have a boat.

Mr. Tally lives on Bass Lake.

Right or wrong?

wrong

Bill's tree hasn't lost its leaves. All the trees on our block have lost their leaves. They are maple trees.

Bill doesn't live on our block.

Right or wrong?

right

When he leaves a gallon of milk, the milkman leaves us a bill. Every Monday morning the milkman leaves a gallon of milk. Today is Monday.

The milkman didn't leave us a bill.

Right or wrong?

wrong

When Margie's windows are open, she puts her bird in the cage. After it rains, Margie always opens the windows. Her house has lots of windows. Margie's bird is sitting on the lampshade.

It hasn't been raining.

Right or wrong?

right

When Sandy wears shorts, she wears kneehighs. Whenever Sandy rides her bike, she wears shorts. Sandy is not wearing shorts.

Sandy is riding her bike.

Right or wrong?

wrong

Every one of the children in Mrs. Frank's class came to school today. Judy stayed home today.

Judy is not a student in Mrs. Frank's class.

Right or wrong?

right

a. Materials: Worksheets 27, 28 and 29; pencils.
Procedure: Do the example with the class. They may do the worksheet independently. The answers should be discussed.
Answers: Example, wrong; 1. right; 2. wrong; 3. wrong; 4. right; 5. right; 6. wrong; 7. right; 8. wrong; 9. right.

WORKSHEET 1

DIRECTIONS: Draw a blue line under the major premise in each syllogism. Then draw a yellow line under each minor premise. Fill in the circle under Right if the conclusion is right, or Wrong if it is wrong.

1. All fish are cold-blooded.
   Tim has a pet fish named Chubby.
   Chubby is black in color.

   Chubby is cold-blooded.

   Right ○ Wrong ○

2. If Pete gets a promotion, he will move to Newton. Newton has a population of one million. Pete did not move to Newton.

   He did not get a promotion.

   Right ○ Wrong

3. Whenever Bill eats spinach, he holds his nose. Bill is eating spinach. Spinach is good for him.

   He is not holding his nose.

   Right ○ Wrong ○

4. Rover is Bill's dog. When Rover barks at night, Bill wakes up. Bill did not wake up last night.

   Rover did not bark last night.

   Right ○ Wrong ○

5. Every Saturday Jill watches cartoons. Jill likes cartoons. Yesterday Jill did not watch cartoons.

   Yesterday was Saturday.

   Right ○ Wrong ○

TRANSPARENCY 1

When Stuart watches television, he eats popcorn. Stuart is watching television.

Stuart is eating popcorn.

Right ○ Wrong ○

Stuart is watching television. When Stuart watches television, he eats popcorn.

Stuart is eating popcorn.

Right ○ Wrong ○

His favorite show is
'Wonderful West,'
but it was cancelled
because of a network
special.

1. Jane's bike was parked in the bike rack at school.

Every bike in the bike rack at school was red.

Jane's bike was not red.

Right ○ Wrong ○

TRANSPARENCY 3

2. Debbie fried eggs this morning.

Whenever Debbie fries eggs, the yolks are broken.

Debbie is ordinarily a pretty good cook.

She made eggs with broken yolks.

Right ○ Wrong ○

TRANSPARENCY 4

3. Steve just caught a pop fly near the third base dugout.

Whenever Steve plays baseball, he wears his dad's old cap with the flip-up sunglasses on the brim.

Steve has paper stuck in around the edges to make it fit.

Steve is wearing one of his dad's old caps today.

Right ○ Wrong ○

W

WORKSHEET 2

DIRECTIONS: For each syllogism below do the following things:

1. Read the syllogism.
2. Write the major and minor premises on the lines provided.
3. Fill in the circle under what the minor premise says.
4. Fill in the circle under Right if the conclusion is right, or under Wrong if it is wrong.

Use the following rules to help decide whether the conclusion is right or wrong:

Rule 1: If the minor premise says the first event in the major premise happened, a right conclusion will say the second event in the major premise happened.

Rule 2: If the minor premise says the second event in the major premise did not happen, a right conclusion will say the first event in the major premise didn't happen.

Example

Frank thought shoes with squidgy soles made him run faster. All the shoes made at Zoom Shoe Company are shoes with squidgy soles. Frank doesn't have a pair of shoes with squidgy soles.

Major premise: ______________________________

Minor premise: ______________________________

The minor premise says:

The first event in the major premise happened.	The second event in the major premise didn't happen.
○	○

Conclusion: Frank has a pair of shoes made by the Zoom Company.

Right	Wrong
○	○

W

1. Peter's Construction Company is building our new school. All the workmen at the Peter's Construction project wear hard hats. Bill works on the Peter's Construction project.

Major premise: ____________________

Minor premise: ____________________

The minor premise says:

The first event in the major premise happened. ○

The second event in the major premise didn't happen. ○

Conclusion: Bill never wears a hard hat.

Right ○ Wrong ○

2. If Jane eats dill pickles, then the next day she has hives. Hives are ugly. Jane does not have hives today.

Major premise: ____________________

Minor premise: ____________________

The minor premise says:

The first event in the major premise happened. ○

The second event in the major premise didn't happen. ○

Conclusion: Yesterday she ate dill pickles.

Right ○ Wrong ○

160

3. Earl and Jesse are riding their bikes today. Whenever Earl and Je ride their bikes, they ask Robert to go along. They have ten-spe bikes.

Major premise: ______________________________

Minor premise: ______________________________

The minor premise says:

The first event in the major premise happened.
○

The second event in t premise didn't happe
○

Conclusion: Robert was asked to go bike-riding today.

Right ○ Wrong ○

4. Yesterday every student in science class looked at a leaf un microscope. They saw the parts very clearly. Jane has not mi science class all this year.

Major premise: ______________________________

Minor premise: ______________________________

The minor premise says:

The first event in the major premise happened.
○

The second event premise didn't h

Conclusion: Jane has looked at a leaf under a microscope

Right ○ Wrong ○

W

5. When Frank goes to camp, he takes leatherwork lessons. He is really getting quite good at leatherwork. Last summer Frank did not take leatherwork lessons.

Major premise: ____

Minor premise: ____

The minor premise says:

The first event in the major premise happened.	The second event in the major premise didn't happen.
○	○

Conclusion: Frank did not go to camp last summer.

Right	Wrong
○	○

W

WORKSHEET 3

	ANSWERS
DIRECTIONS: Cut off the answers on the far right and staple them together as an answer booklet. Then read the problems and answer the questions after each one. After you've answered all the questions, check your work with your answer booklet.	
Saturday is a busy day for Edith. Every Saturday Edith cleans the kitchen floor. Today is Saturday. Edith is cleaning the kitchen floor.	
1. What is the major premise? ________	Every Saturday Edith cleans the kitchen floor
2. According to the major premise, when does Edith clean the floor? ________	on Saturday
3. Does she always clean the floor on Saturdays? ________	yes
4. What is the minor premise? ________	Today is Saturday.
5. According to the minor premise, is today Saturday? ________	yes
6. Then is Edith cleaning the floor? ________	yes
7. Is the conclusion right or wrong? ________	right
Joel's bedroom light is not on. Whenever it rains at night, Joel sleeps with his bedroom light on. He is afraid of storms. It is raining outside.	
8. What is the major premise? ________	Whenever it rains at night, Joel sleeps with his bedroom light on.

9. According to the major premise, what does Joel do when it rains at night? ________________	sleeps with the light on
10. Does he always sleep with his light on when it rains? ________	yes
11. What is the minor premise? ________________	Joel's bedroom light is not on.
12. According to the minor premise, is Joel's light on? ________	no
13. Then is it raining? ________	no
14. Is the conclusion right or wrong? ________	wrong

Today Emil is fishing at Wildrose Dam while his parents are at work. The perch are biting well. When Emil goes fishing without his parents, his little brother cannot go with him. Emil took his little brother fishing today.

15. What is the major premise? ________________	When Emil goes fishing without his parents, his little brother cannot go with him.
16. According to the major premise, does Emil's little brother go fishing with him without his parents? ________	no
17. What is the minor premise? ________________	Today Emil is fishing at Wildrose Dam while his parents are at work.
18. According to the minor premise, is Emil fishing without his parents? ________	yes

VV

19. Can Emil's brother go fishing without his parents? ________	no
20. Then is Emil's brother fishing with Emil? ________	no
21. Is the conclusion right or wrong? ________	wrong

Last week David raced against the Ohio state champion. David loves track. He trains hard, and it is paying off for him. Every race that David has been in he has won. David lost the race to the Ohio state champion.

22. What is the major premise? ________ ________	Every race that David has been in he has won.
23. According to the major premise, has David won every race he has ever been in? ________	yes
24. What is the minor premise? ________ ________	Last week David raced against the Ohio state champion.
25. According to the minor premise, did David race against a boy from Ohio? ________	yes
26. If David has won every race he has ever been in, would he have won the race against the Ohio boy? ________	yes
27. Is the conclusion right or wrong? ________	wrong

W

> I am holding a picture that isn't fuzzy. Whenever Milly takes a picture with her camera, it turns out fuzzy. Milly didn't take the picture I'm holding.

28. What is the major premise? ____________________	Whenever Milly takes a picture with her camera it turns out fuzzy.
29. According to the major premise, what happens to all of the pictures that Milly takes? ____________________	They're fuzzy.
30. What is the minor premise? ____________________	I am holding a picture that isn't fuzzy.
31. According to the minor premise, what kind of picture do I have? ____________________	one that's not fuzzy
32. What have we said about all of Milly's pictures? ____________________	They're fuzzy.
33. Is the picture I'm holding fuzzy? ____________	no
34. If it's not fuzzy, could Milly have taken the picture? ____________	no
35. Is the conclusion right or wrong? ____________	right

W

WORKSHEET 4

DIRECTIONS: Read the syllogisms. Then decide whether the conclusion under each one is right or wrong. Fill in the circle under Right if a conclusion is right and fill in the circle under Wrong if it is wrong.

Example

Cari is holding one of the dresses from her closet. All of the dresses in Cari's closet were given to her by her cousin.

Cari is holding a dress her mother gave her.

Right ○ Wrong ○

1. Eric lives in a two-story house. All the windows on the first floor are locked. Eric just found a window that wasn't locked.

   It was a window on the first floor.

   Right ○ Wrong ○

2. It is 4 o'clock. Every day at 4 o'clock there is a concert on the radio. It is usually a classical music concert.

   There is a concert on the radio.

   Right ○ Wrong ○

3. Karl is not listening to music. Whenever Karl does his homework, he listens to music. He likes almost every kind of music and enjoys both his records and his radio.

   Karl is not doing homework.

   Right ○ Wrong ○

W

4. Crystal is not playing with a steel racket. She won her school's junior tennis championship last year. When Crystal plays tennis, she uses a steel racket.

Crystal is not playing tennis.

Right ○ Wrong ○

5. At school Monday morning Heidi told her friends she had gone skating the past Saturday. It had been bitterly cold over the weekend. Everyone who had gone skating had dressed warmly.

Heidi had dressed warmly on Saturday.

Right ○ Wrong ○

TRANSPARENCY 5

If it doesn't rain this afternoon, Bill will mow Mr. Smith's lawn and earn $1.00.

It didn't rain this afternoon.

Bill went to the movie.

Right ○ Wrong ○

If Naomi works in the orchard, she gets to take 4 quarts of fruit home with her.

On Tuesday Naomi's mother did not can fruit.

Naomi worked in the orchard on Monday.

Right ○ Wrong ○

If Alan gets the job as stock boy, he will buy a new bike.

Alan rode the bus to school all summer.

Alan got the job as stock boy.

Right ○ Wrong ○

TRANSPARENCY 5 - OVERLAY 1

If he earns $1.00, Bill will go to the movie.

If Naomi gets four quarts of fruit, her mother cans the next day.

If he gets a new bike, Alan will stop riding the bus to summer school.

W

WORKSHEET 5

DIRECTIONS: Cut off the answers on the far right and staple them together as an answer booklet. Then read the problems and answer the questions after each one. After you've answered all the questions, check your work with your answer booklet.

> When Phil has a game, he gets excited. When Phil gets excited, he gets a rash. Phil is warming up for a basketball game. Phil is getting a rash.

	ANSWERS
1. What is the first major premise? ____________________	When Phil has a game, he gets excited.
2. According to the first major premise, what does Phil do when he has a game? ____________________	He gets excited.
3. What is the second major premise? ____________________	When Phil gets excited, he gets a rash.
4. According to the second major premise, what does Phil do when he gets excited? ____________________	He gets a rash.
5. What is the minor premise? ____________________	Phil is warming up for a basketball game.
6. According to the minor premise, does Phil have a game? ____________	yes
7. Then is Phil excited? ____________________	yes

W

8. Then will Phil get a rash? ________	yes
9. Is the conclusion right or wrong? ________	right

Bill Jackson has an unusual farm. All of the animals on Bill Jackson's farm are marsupials. All female marsupials have pouches in which they carry their young. Popo is a female animal that lives on Bill Jackson's farm. Popo doesn't have a pouch.

10. What is the first major premise? ________ ________	All of the animals on Bill Jackson's farm are marsupials.
11. According to the first major premise, only what kind of animals live on Bill's farm? ________	marsupials
12. What is the second major premise? ________ ________ ________ ________ ________	All female marsupials have pouches in which they carry their young.
13. According to the second major premise, what do all female marsupials have? ________	pouches
14. What is the minor premise? ________ ________ ________	Popo is a female animal that lives on Bill Jackson's farm.
15. According to the minor premise, where does Popo live? ________	on Bill's farm.

W

16. What kind of animals live on Bill's farm? ________________________________	marsupials
17. What do female marsupials have? ________________________________	pouches
18. If Popo lives on Bill's farm, what must she have? ________________________________	a pouch
19. Is the conclusion right or wrong? ____________	wrong

> Carmel is my dog. Every time Carmel goes under the porch, he takes a nap. When Carmel takes a nap, my cat, Fritz, plays with Carmel's tail. Fritz is eating lunch. Carmel is not under the porch.

20. What is the first major premise? ____________ ________________________________ ________________________________	Every time Carmel goes under the porch, he takes a nap.
21. According to the first major premise, what does Carmel do every time he goes under the porch? ________________________________	He naps.
22. What is the second major premise? ____________ ________________________________ ________________________________	When Carmel takes a nap, my cat, Fritz, plays with Carmel's tail.

W

23. According to the second major premise, what does Fritz do when Carmel naps? ______________________	He plays with Carmel's tail.
24. What is the minor premise? ______________________	Fritz is eating lunch.
25. According to the minor premise, what is Fritz doing? ______________________	eating lunch
26. What does Carmel have to do if he is under the porch? ______________________	nap
27. What does Fritz do if Carmel naps? ______________________	He plays with Carmel's tail.
28. Is Fritz playing with Carmel's tail? __________	no
29. Then is Carmel under the porch? __________	no
30. Is the conclusion right or wrong? __________	right

TRANSPARENCY 6

When Stuart eats buttered popcorn, he sits in the old leather chair because his mother doesn't want greasy butter stains on the new furniture. When Stuart watches television, he eats buttered popcorn.

TRANSPARENCY 6 - OVERLAY 1

Major Premise No. 1 -------------

Major Premise No. 2 -------------

TRANSPARENCY 6 - OVERLAY 2

Stuart is my brother.

Stuart is watching television.
Stuart is sitting on the new davenport.

Right ○ Wrong ○

WORKSHEET 6

DIRECTIONS: For each syllogism below do the followin

1. Read the syllogism.
2. Write the first and second major premises on the l
3. Write the minor premise on the line provided.
4. Fill in the circle under what the minor premise sa
5. Fill in the circle under Right if the conclusion i
   Wrong if it is wrong.

Use the following rules to help decide whether the cc
or wrong:

Rule 1: If the minor premise says the first event
premise happened, a right conclusion will say the se
second major premise happened.
Rule 2: If the minor premise says the second event
premise did not happen, a right conclusion will say
the first major premise didn't happen.

1. If tourist trade is lost by the businessmen in th
   they lose money. If the price of out-of-state fis
   then tourist trade will be lost. Last winter the
   of fishing licenses for out-of-state people.

   First major premise: ______________________________

   ____

   Second major premise: ______________________________

   ____

   Minor premise: ______________________________

   ____

   The minor premise says:

   The first event of the first
   major premise happened.
   ○

   The se
   major

   Conclusion: Businessmen in the fishing area are

   Right
   ○

W

2. Mr. Franklin is a member of the Newport Teachers' Organization. All members of the Newport Teachers' Organization are members of the State Teachers' Group. Members of the State Teachers' Group belong to the National Teachers' Coalition.

First major premise: ______________________________

Second major premise: ______________________________

Minor premise: ______________________________

The minor premise says:

The first event of the first major premise happened. ○	The second event of the second major premise did not happen. ○

Conclusion: Mr. Franklin is not a member of the National Teachers' coalition.

Right	Wrong
○	○

3. Eve was a pretty good artist and enjoyed making posters. Whenever she made a poster, Eve made one that had a funny saying on it. The only place that sells posters with funny sayings is Goode's Poster Shop. Stella bought a poster at Ander's Book Store.

First major premise: ______________________________

Second major premise: ______________________________

Minor premise: ______________________________

The minor premise says:

The first event of the first major premise happened. ○	The second event of the second major premise did not happen. ○

Conclusion: Stella bought a poster made by Eve.

Right	Wrong
○	○

VV

4. **The only typewriters sold by Downtown Office Supply are Regal typewriters. All of the typewriters at Smith High School were bought from Downtown Office Supply. Sally is not typing with a Regal.**

First major premise: ______________________________

Second major premise: ______________________________

Minor premise: ______________________________

The minor premise says:

The first event of the first major premise happened. ○

The second event of the second major premise did not happen. ○

Conclusion: **Sally is not typing at Smith High School.**

Right ○ **Wrong** ○

5. The garbage collectors' strike has lasted several weeks. If the strike doesn't end today, Mrs. Wills will have to buy additional garbage cans. If Mrs. Wills buys additional garbage cans, she will have to borrow money from Mr. Wills. The garbage collectors' strike did not end today.

First major premise: ______________________________

Second major premise: ______________________________

Minor premise: ______________________________

The minor premise says:

The first event of the first major premise happened. ○

The second event of the second major premise did not happen. ○

Conclusion: **Mrs. Wills borrowed some money from Mr. Wills.**

Right ○ **Wrong** ○

W

WORKSHEET 7

DIRECTIONS: Cut off the answers on the far right and staple them together as an answer booklet. Then read the problems and answer the questions after each one. After you've answered all the questions, check your work with your answer booklet.

> Lila has to study hard to get her good grades. If she spends less time studying, her grades will drop. If Lila is elected to the Student Council, she will have less time for studying. Lila is serving on the Student Council. Lila's grades will not drop.

	ANSWERS
1. What are the two major premises? ____________	If she spends less time studying, her grades will drop. If Lila is elected to the Student Council, she will have less time for studying.
2. What are the four events in the two major premises?	less studying time grades drop elected to council less time studying
3. Which event is repeated? ____________	less time studying

VV

4. What is the first major premise? ________ ________ ________	If Lila is elected to the Student Council, she will have less time for studying.
5. According to the first major premise, what will happen if Lila is elected to the Student Council? ________ ________	She will have less time for studying
6. What is the second major premise? ________ ________ ________	If she spends less time studying, her grades will drop.
7. According to the second major premise, what will happen if Lila spends less time studying? ________	Her grades will drop.
8. What is the chain of events described in the two main premises? ________ ________ ________	elected to Council → less time for studying → grades drop
9. Does the first major premise say that being elected to the Student Council will give Lila less time to study? ________	yes

VV

10. Does the second major premise say that having less time to study will make Lila's grades drop? ______________	yes
11. Then can we say that if Lila is elected to the Student Council, her grades will drop? ______________	yes
12. What is the minor premise? ______________ ______________	Lila is serving on the Student Council.
13. What will happen if Lila serves on the Student Council? ______________ ______________	Her grades will drop.
14. Is the conclusion right or wrong? ______________	wrong
The only place Jack races his dune buggy is on the rough flats east of town. Every Saturday morning he enjoys racing his dune buggy. Jack is not east of town this morning. It is not Saturday morning.	
15. What are the two major premises? ______________ ______________ ______________ ______________ ______________ ______________ ______________	The only place Jack races his dune buggy is on the rough flats east of town. Every Saturday morning he enjoys racing his dune buggy.

W

16. What are the four events in the two major premises? ______________________ ______________________ ______________________ ______________________	races his buggy east of town every Saturday morning races his buggy
17. Which event is repeated? ______________________	races his buggy
18. What is the first major premise? ________ ______________________ ______________________	Every Saturday morning he enjoys racing his dune buggy.
19. According to the first major premise, what does Jack do every Saturday morning? ______________________	races his dune buggy
20. What is the second major premise? ________ ______________________ ______________________ ______________________	The only place Jack races his dune buggy is on the rough flats east of town
21. According to the second major premise, where is Jack when he races his dune buggy? ______________________ ______________________	east of town

W

22. What is the chain of events described in the two major premises? ____________________________ ____________________________ ____________________________	every Saturday morning→races buggy→east of town
23. Does the first major premise say that Jack races every Saturday morning? __________	yes
24. Does the second major premise say that Jack races east of town? __________	yes
25. Then can we say that if it's Saturday morning, Jack will be east of town? __________	yes
26. What is the minor premise? ____________ ____________________________	Jack is not east of town this morning.
27. Where would Jack be if it were Saturday morning? ____________________________	racing east of town
28. Is Jack east of town? ____________	no
29. Is the conclusion right or wrong? __________	right

W

Joyce has a new stapler that Edith loves to borrow. When the stapler is empty, Joyce has to go to the store for staples. Whenever Edith returns the stapler, it is empty. Joyce didn't go to the store for staples. Edith just returned the stapler.

30. What are the two major premises? ______	When the stapler is empty, Joyce has to go to the store for staples. Whenever Edith returns the stapler, it is empty.
31. What are the four events in the two major premises?	stapler empty go to store return stapler stapler empty
32. Which event is repeated?	stapler empty
33. What is the first major premise? ______	Whenever Edith returns the stapler, it is empty.

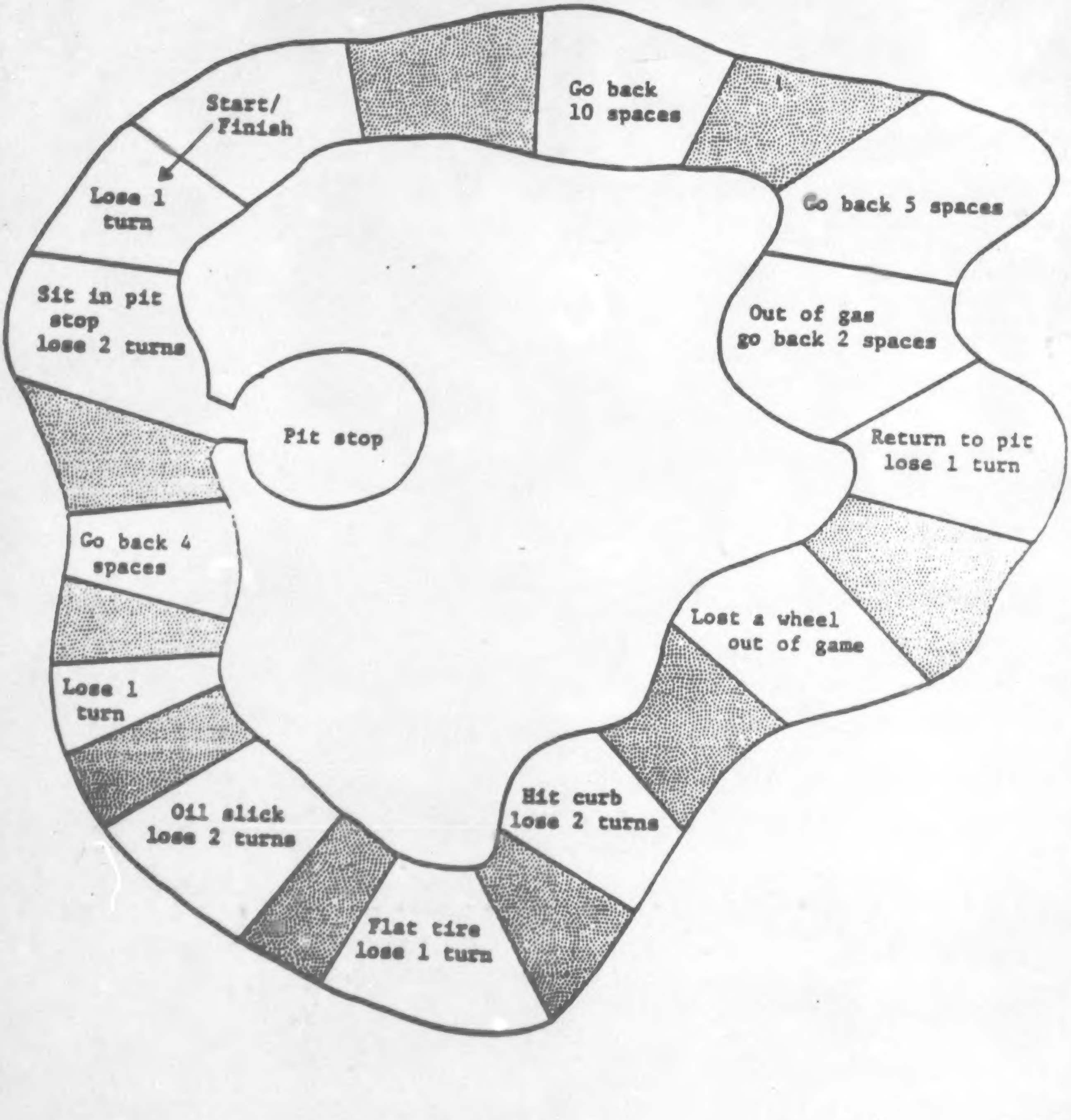
VV

34. According to the first major premise, what happens when Edith returns the stapler? ________	It is empty.
35. What is the second major premise? ________ ________ ________	When the stapler is empty, Joyce has to go to the store for staples.
36. According to the second major premise, what happens when the stapler is empty? ________ ________	Joyce goes to the store for staples.
37. What is the chain of events described in the two major premises? ________ ________ ________	returns stapler → stapler empty → goes to the store for staples
38. Does the first major premise say that when Edith returns the stapler it will be empty? ________	yes
39. Does the second major premise say that when the stapler is empty Joyce goes to the store for staples? ________	yes
40. Then can we say that whenever Edith returns the stapler Joyce will have to go to the store for staples? ________	yes

W

41. What is the minor premise? ____________________ ____	Joyce didn't go to the store for staples.
42. What would happen if the stapler were empty? ____ ____	Joyce would go to the store for staples.
43. Did Joyce go to the store? ____________________	no
44. Then is the stapler empty? ____________________	no
45. If the stapler is not empty, could Edith just have returned it? ____________	no
46. Is the conclusion right or wrong? ______________	wrong

GAMEBOARD 2


Start/
Finish
Go back
10 spaces
Lose 1
turn
Go back 5 spaces
Sit in pit
stop
lose 2 turns
Out of gas
go back 2 spaces
Pit stop
Return to pit
lose 1 turn
Go back 4
spaces
Lost a wheel
out of game
Lose 1
turn
Hit curb
lose 2 turns
Oil slick
lose 2 turns
Flat tire
lose 1 turn

W

WORKSHEET 8

DIRECTIONS: Read the syllogisms. Decide whether the conclusion is right or wrong. Fill in the circle under Right if the conclusion is right or under Wrong if it is not.

Example

Emily is going to visit her cousin. He lives in a very small town called Bellwin. All the people who live there are farmers. Each farmer either grows corn and oats or raises cattle.

Right Wrong

Emily's cousin raises tobacco. ○ ○

1. All the people who went to Lake Fishnet last weekend went swimming. All the members of Jebb Johnson's family went to Lake Fishnet last weekend. Thor is Jebb Johnson's son.

Right Wrong

Thor went swimming last weekend. ○ ○

2. All the swimsuits made by the New Look Clothing Co. are bikinis. Don bought his new swimsuit from the only men's store in Lonesome City. The only swimsuits sold by the men's store were made by the New Look Clothing Co.

Right Wrong

The swimsuit Don bought was not a bikini. ○ ○

3. Super Sal is a detective, and she wanted to solve two burglaries. If Super Sal thought only one person was responsible, then she wouldn't use an informer. If informers were not used, then Stoolie Sam wouldn't earn any spending money. Stoolie Sam was paid some money for information by Sal.

Right Wrong

Super Sal thought one person was responsible. ○ ○

VV

4. Yesterday John saw three bears running through Certainty Forest. In the northern part of the forest there are no bears because there is a big fence to keep them out.

The bears John saw were not in the northern section of Certainty Forest.

Right ○ Wrong ○

5. The old house in the county of Dunn has an interesting history. When it was built, each house in Dunn was put on the shore of a lake. The lake was located in the middle of a wood.

The old house was built in the middle of a wood.

Right ○ Wrong ○

6. The Appalachians, which are "worn-down" mountains, are 6,711 feet above sea level at their highest point. The Black Mountains are a part of the large Appalachian Mountain Range.

The Black Mountains are more than 6,711 feet above sea level.

Right ○ Wrong ○

7. Wani, who is twelve, is the daughter of Keno, chief of the Malu. No one but a Malu has ever been leader of the malu tribe. All of the Malu children eat cackleberries for breakfast. Wani does not like cackleberries as well as bananas.

Wani eats cackleberries for breakfast.

Right ○ Wrong ○

8. Mr. Jones was elected Mayor of Elmwood last year. Yvonne's grandfather has voted for the loser in every election for mayor of Elmwood in the last 60 years.

Yvonne's grandfather voted for Mr. Jones.

Right ○ Wrong ○

W

9. All primitive people in Kala talked to each other only by dancing. All the people who lived in Kala were primitive. John then read about Mo-Mo, who spoke Spanish.

Right ○ Wrong ○

Mo-Mo was not a Kalan.

1

Major Premise

and

1

Minor Premise

Right? Wrong?

Indeterminate?

III. Background for Teacher

A. Syllogistic reasoning in III involves solving syllogisms that are right or wrong, as well as more difficult syllogisms with indeterminate conclusions (conclusions that cannot be determined from the information given in the major and minor premises).

B. Procedure involved in determining whether a conclusion to a syllogism that has one major and one minor premise is right, wrong, or indeterminate.

1. The student learns to identify both of the part of a syllogism of and their roles in word problems.

Materials: Transparency 1, overhead projector, 2 glasses of water, red food coloring.

Procedure: Say, "I have here a glass of water and some red food coloring. If I put red food coloring in the glass of water, the water will turn red." (Put the food coloring in the water.) Then say, "I put red food coloring in the water. The water is red." Explain that this experiment is a kind of syllogism.

a. Project Transparency 1. Identify "If I put red food coloring in the glass of water, the water will turn red" as the major premise. Identify "I put red food coloring in the water" as the minor premise, explaining that the minor premise says one of four things about the major premise: (1) The first event in the major premise happened; (2) the first event in the major premise didn't happen; (3) the second event in the major premise happened; or (4) the second event in the major premise didn't happen. Ask the class to identify what the minor premise says. They should respond that the minor premise says the first event in the major premise happened.

Identify "The water is red" as the conclusion, explaining that a conclusion is a statement that can be right, or wrong, or sometimes either right or wrong.

Ask the class to think about the sequence of events described by the major premise and then think about the event that happened in the minor premise. Ask the class to identify the event that would follow the event described in the minor premise. The class should identify the water turning red as the event that would follow adding food coloring to the water, and state that the conclusion is right.

Identify "I have here a glass of water and some red food coloring" as an extraneous sentence that doesn't give information helpful in determining whether the conclusion is right, wrong or could be either right or wrong.

b. Materials: Transparencies 2 and 3, overhead projector.
Procedure: Tell the class that the first step in syllogistic reasoning is to figure out which statement is the major premise. Emphasize that they must determine what the major premise says and what it does not say. Explain that they are going to look at some examples where the major premise is given and then look at some situations to see if the situations are about the same thing that the major premise is about.

Place Transparency 2 on the overhead projector (exposing the major premise only) and read the major premise, "All of the green chairs are in Miss Riley's room." Expose the first box and ask if this picture shows what the major premise says. Explain that the word green represents a green chair, and box represents Miss Riley's room. They should respond that this picture does show what the major premise says. Expose the second box and ask whether or not this picture shows what the major premise says. They should respond that it does. Ask if it is the same as the first box. They should reply that it is not the same, although in both cases all the green chairs are inside the box. Expose the third box and ask if it shows what the major premise says. They should respond that it does not, because some of the green chairs are not in Miss Riley's room. Emphasize the importance of looking at each situation and thinking about what is said and what is not said in the major premise.

c. Materials: Gameboard 1, minor premises recorded on index cards.
Procedure: Have a student read the major premise on the gameboard. He then reads the minor premise card and places them in the appropriate squares on the gameboard.
Minor premises with answers:

It's hot in the apartment.	(I)
It's not hot in the apartment.	(II)
It's cold in the apartment.	(II)
Frank is sleeping on a mattress on the roof.	(III)
Frank is not sleeping on a mattress on the roof.	(IV)
Frank is sleeping on a mattress in the bedroom.	(IV)

2. The student learns to use information given in a two-term syllogism to determine whether a conclusion is right, wrong, or indeterminate.

Materials: Transparency 3, overhead projector.

Procedure: Project Transparency 3. Have the class read the first syllogism silently as you read it aloud. Ask the students to identify the major premise and the sequence of events that it describes. Then ask the students to identify the minor premise and what it says. Discuss what is known when the minor premise says the second event in the major premise happened. Elicit the response that when the minor premise says the second event in the major premise happened, we don't know whether the first event did or did not happen. Ask the class whether the conclusion is right, is wrong, or could be either right or wrong. They should respond that it could be either right or wrong. Discuss the rule that tells why this is so.

a. Read the remaining syllogisms following the same procedure. Tell the class that they must watch carefully for what is said and what is not said in syllogisms. Remind the class that a major premise describes only ONE sequence of event - i.e., when the first event in the major premise happens the second will happen too. It doesn't indicate what will happen if the second event happens, or if the first event doesn't happen.

Answers:

1. Major premise: When John goes to camp, he goes by bus; minor premise: John is on a bus right now; the minor premise says the second event did happen; rule: when the minor premise says the second event did happen, we don't know whether the first event did or did not happen; could be either right or wrong.
2. Major premise: Whenever Jane goes on a diet, she drinks diet 7-up; minor premise: Jane isn't on a diet; the minor premise says the first event didn't happen; rule: when the minor premise says the first event didn't happen, we don't know whether the second event did or did not happen; could be either right or wrong.
3. Major premise: Allen always cleans his hamster's cage in the garage; minor premise: Allen is in the garage; the minor premise says the second event did happen; rule: when the minor premise says the second event did happen, we don't know whether the first event did or did not happen; could be either right or wrong.

b. Materials: Transparency 4, overhead projector.

Procedure: Project Transparency 4. Have the class read the first syllogism silently as you read it aloud. Ask the class whether the conclusion is right, is wrong, or could be either right or wrong. They should respond that it is right. Tell the class that they are going to study how changing the minor premises in syllogisms will change the conclusion's being right, wrong, or either right or wrong.

Read the second syllogism. Point out that the major premise is the same as the major premise in the previous syllogism. The minor premise is different. Ask the class to determine whether the conclusion is right, is wrong, or could be either right or wrong. They should respond that it is wrong. Read the last syllogism. The class may decide whether the conclusion is right, wrong, or could be either right or wrong. The class should respond that it could be either right or wrong.

Explain that changing the minor premises in the syllogisms on the transparency changed the conclusion's being right, wrong, or either right or wrong. Explain that by finding the event that the minor premise says is or isn't happening, the class can determine whether the conclusion will be right, wrong, or either right or wrong.

Discuss what the minor premise says in each of the three syllogisms.

c. Materials: Chalkboard, chalk.

Procedure: Explain that there are ways to tell whether a conclusion is one that can be made with the information given. Point out that a major premise describes a chain of events. Explain that only a conclusion that reflects this chain of events can definitely be made. Write on the chalkboard, "If it rains, my dog won't sleep in the garage." Explain that a major premise only tells us that if the first event happens, then a second happens too. We can assume that if the second doesn't happen then the first must not have happened either. Discuss the sequence of events in the major premise on the board.

d. Tell the class that if they identify the events in the major premise and then identify what the minor premise says, they can determine whether a conclusion is right, wrong, or either right or wrong. Explain that if the minor premise says the first event in the major premise happened, the conclusion is one which can be made. It will be right or wrong. Tell the class that if the minor premise says the second event did not happen, the conclusion is one which can be made. It too will be right or wrong. Stress that if the minor premise says the first event did not happen or the second event happened, the conclusion will be one which cannot be determined.

e. Materials: Transparencies 5, 6, 7 and 8; overhead projector; grease pencil.

Procedure: Project Transparency 5, exposing only the syllogism. Read the syllogism. The class may identify the major and minor premises. They may also identify what the minor premise says. Discuss the kind of conclusion that follows a minor premise which says the first event in the major premise happened. Discuss why the conclusion is right. Tell the class that a way of understanding syllogisms is to get a picture of what is happening. Expose the drawing of the rock collection, and read "All of the rocks in Jim's collection are considered gems." Draw a circle around the entire collection and write the word "gems" on it. Then read, "The largest rock in Jim's collection is a piece of jasper." Circle the large rock and label it "jasper". Then explain that if all of the rocks are gems, then any individual rock in the group must be a gem.

Tell the class that they will now take a look at a syllogism with the same major premise but a different minor premise and conclusion. Place Transparency 6 on the overhead projector. Discuss the syllogism, following the same procedure.

Project the remaining transparencies, following the above procedure. Remind the class that when the first event in the major premise happens, the second will happen too. It doesn't indicate what will happen if the second event happens, or if the first event doesn't happen.

Answers:

6. Major premise: All of the rocks in Jim's collection are considered gems; minor premise: The largest rock in Jim's collection is a piece of jasper; the minor premise says the first event happened; right.

7. Major premise: All of the rocks in Jim's collection are considered gems; minor premise: Diamonds are considered gems; the minor premise says the second event happened; could be either right or wrong.

8. Major premise: All the gems in Jim's collection are stone gems; minor premise: A pearl is not a stone gem; the minor premise says the second event didn't happen; wrong.

9. Major premise: All the gems in Jim's collection are stone gems; minor premise: This blue gem is not part of Jim's gem collection; the minor premise says the first event did not happen; could be either right or wrong.

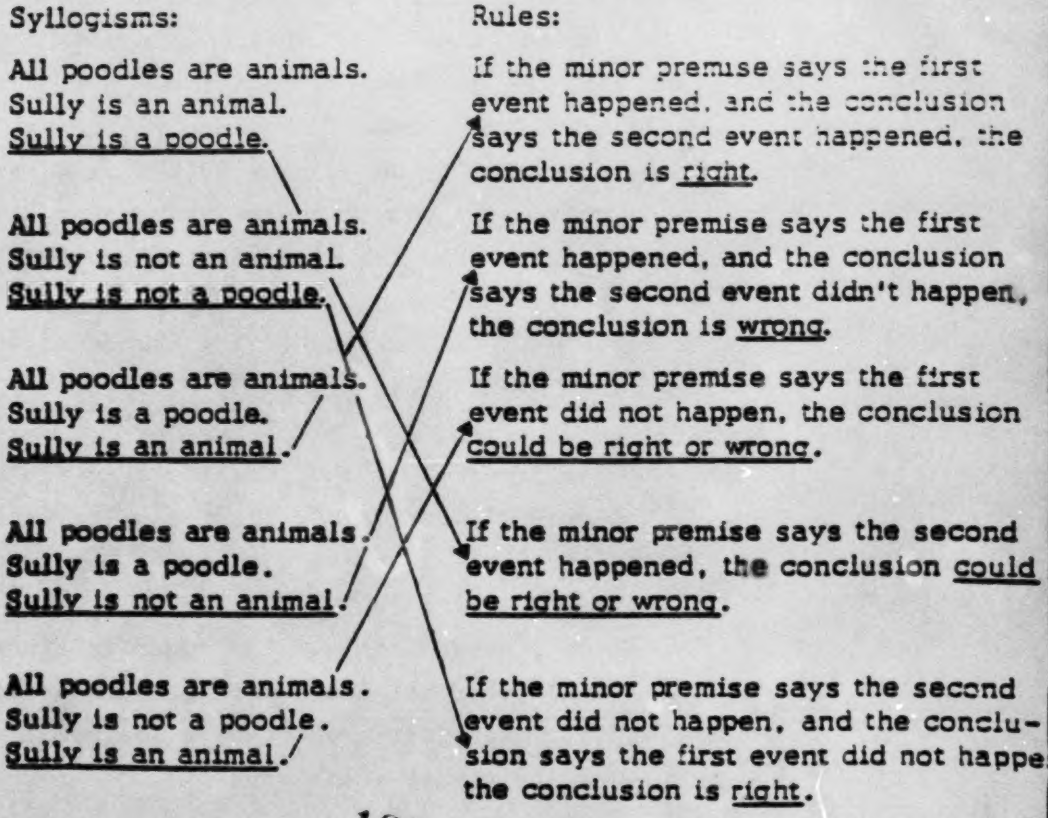
f. **Materials:** Gameboard 2, enlarged; cardboard; glue; laminating plastic; colored yarn; tape.

Procedure: Enlarge Gameboard 2, glue it to cardboard backing, laminate it, and attach a 5 - 8" string of yarn to the end of each of the six syllogisms.

The student may read the syllogisms and the rules on the gameboard. Match each syllogism with the rule that appropriately indicates the conclusion given. Join each syllogism to its appropriate rule by pulling the yarn from the syllogism and taping the loose end beside the rule.

The student may check his responses with the correct responses on the back of the board.

Answers, to be glued to the back of the gameboard:



Syllogisms:

All poodles are animals.
Sully is an animal.
Sully is a poodle.

All poodles are animals.
Sully is not an animal.
Sully is not a poodle.

All poodles are animals.
Sully is a poodle.
Sully is an animal.

All poodles are animals.
Sully is a poodle.
Sully is not an animal.

All poodles are animals.
Sully is not a poodle.
Sully is an animal.

Rules:

If the minor premise says the first event happened, and the conclusion says the second event happened, the conclusion is right.

If the minor premise says the first event happened, and the conclusion says the second event didn't happen, the conclusion is wrong.

If the minor premise says the first event did not happen, the conclusion could be right or wrong.

If the minor premise says the second event happened, the conclusion could be right or wrong.

If the minor premise says the second event did not happen, and the conclusion says the first event did not happe the conclusion is right.

All poodles are animals.
Sully is not an animal.
Sully is a poodle. → If the minor premise says the second event did not happen, and the conclusion says the first event happened, the conclusion is wrong.

g. Materials: Worksheets 1, 2 and 3; pencils; chalkboard; chalk.

Procedure: Remind the class that a major premise describes ONE sequence of events - i.e., when the first event in the major premise happens, the second will happen too. Write the following rules on the chalkboard and discuss them with the class:

1. If the minor premise says the first event happened, and the conclusion says the second event happened, the conclusion is right.
2. If the minor premise says the first event happened, and the conclusion says the second event didn't happen, the conclusion is wrong.
3. If the minor premise says the first event did not happen, the conclusion could be either right or wrong.
4. If the minor premise says the second event happened, the conclusion could be either right or wrong.
5. If the minor premise says the second event did not happen, and the conclusion says the first event did not happen, the conclusion is right.
6. If the minor premise says the second event did not happen, and the conclusion says the first event happened, the conclusion is wrong.

Do the example with the class. The class may do the worksheets independently. The answers should be discussed.

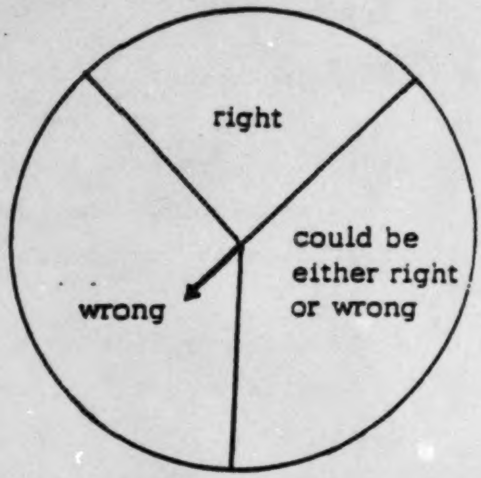
Answers: Example, maybe; 1. wrong; 2. right; 3. wrong; 4. maybe; 5. right; 6. maybe; 7. maybe; 8. maybe; 9. maybe

h. Materials: Worksheets 4, 5, 6, 7, 8, 9 and 10; pencils; scissors; stapler.

Procedure: The class may cut the answers off the worksheets and staple them together as an answer booklet. They may do the worksheets independently. Make sure they check their own answers. The worksheets may be arranged in a booklet form. They need not complete the booklet at one sitting.

i. Materials: 3 x 9' plastic or oilcloth twisterboard; spinner; answer key.

Procedure: Prepare the twister board (note: the syllogism circles may be attached to the twisterboard with brass paper fasteners; this will enable the class to rotate the syllogisms to make them readable from all positions) and a spinner:



Two students stand in the square on the twisterboard labeled "Start-Stand Here". A third student spins the dial on the spinner. He calls out the kind of conclusion that the dial points to. The two students read the encircled syllogisms on the board and put either a hand or a foot on the syllogism that has the kind of conclusion stated. The third student checks the responses with the answer key. If a student responds correctly, he earns the space; if his response is incorrect, he removes his hand or foot from the syllogism circle.

Play continues until one of the students has both hands and both feet on four different, and correctly identified, conclusions. That student is the winner of the game.

Answer Key:

Right conclusions: 1, 8, 9, 12

Wrong conclusions: 3, 4, 6, 7, 11

Indeterminate conclusions: 2, 5, 7, 10

j. Materials: Worksheets 11 and 12, rules written on the chalkboard, paper, pencils, glue, staplers.

Procedure: The student puts together a "Rule Book of Syllogistic Reasoning". The rules are written in the Rule Book as chapter headings, and the syllogisms on Worksheets 11 and 12 are cut apart and glued beneath the appropriate headings as examples of the specific rules. The student's Rule Book should be examined by you. The student should be encouraged to use his Rule Book as a source of reference.

Rules with correct example syllogisms:

1. If the minor premise says the first event happened, and the conclusion says the second event happened, the conclusion is right. (1, 6)
2. If the minor premise says the first event happened, and the conclusion says the second event didn't happen, the conclusion is wrong. (4, 10)
3. If the minor premise says the first event didn't happen, the conclusion could be either right or wrong. (5, 8)
4. If the minor premise says the second event happened, the conclusion could be either right or wrong. (3, 7, 12)
5. If the minor premise says the second event did not happen, and the conclusion says the first event did not happen, the conclusion is right. (2, 11)
6. If the minor premise says the second event did not happen, and the conclusion says the first event happened, the conclusion is wrong. (9)

k. Materials: Syllogisms recorded on paper strips (major premises, minor premises, and conclusions recorded on separate strips), and inserted into envelopes.

Procedure: Hand the student the five syllogism envelopes. Tell the student that each envelope has three sentences; one sentence is a major premise, and two sentences can be either a minor premise or a conclusion. Explain to the student that he is going to make a syllogism. Explain that by arranging the sentences differently, the student can make a syllogism which has a right conclusion, a wrong conclusion, or a conclusion that might be either right or wrong.

Ask the student to arrange the sentences in the envelopes to make the following syllogisms:

For envelope #1:

(a) a syllogism with a conclusion that is right (If George goes to the ball game, Peter will take his paper route for him. George went to the ball game today. Peter took George's paper route.)

(b) a syllogism with a conclusion that could be either right or wrong (If George goes to the ball game, Peter will take his paper route for him. Peter took George's paper route. George went to the ball game today.)

For envelope #2:

a syllogism with a conclusion that is wrong (All of Susie's cats are black and white. Susie's cat is in the tree. There is not a black and white cat up in the tree. Or, All of Susie's cats are black and white. There is not a black and white cat up in the tree. Susie's cat is in the tree.)

For envelope #3:

(a) a syllogism with a conclusion that is right (If Mr. Tibbs sends for his tomato seeds today, he will receive two free clay pots from the seed company. Mr. Tibbs will not receive two free clay pots. Mr. Tibbs didn't send for his tomato seeds today.)

(b) a syllogism with a conclusion that could be either right or wrong (If Mr. Tibbs sends for his tomato seeds today, he will receive two free clay pots from the seed company. Mr. Tibbs didn't send for his tomato seeds today. Mr. Tibbs will not receive two free clay pots.)

For envelope #4:

a syllogism with a conclusion that is wrong (Each of the fifth-graders in Mr. Black's science class has his own mealworm. Sandra is a fifth-grader in Mr. Black's class. Sandra doesn't have her own mealworm. Or, Each of the fifth-graders in Mr. Black's science class has his own mealworm. Sandra doesn't have her own mealworm. Sandra is a fifth-grader in Mr. Black's class.)

For envelope #5:

(a) a syllogism with a conclusion that is right (If Martha makes the basketball team, she will be the first female to play varsity basketball at Wilson High. Martha made the basketball team. Wilson High will have a female on its varsity team.)

(b) a syllogism with a conclusion that could be either right or wrong (If Martha makes the basketball team, she will be the first female to play varsity basketball at Wilson High. Wilson High will have a female on its varsity team. Martha made the basketball team.

Statements to be recorded on strips and inserted in envelopes:

Envelope #1:

George went to the ball game today.

Peter took George's paper route.

If George goes to the ball game, Peter will take his paper route for him.

Envelope #2:

All of Susie's cats are black and white.

Susie's cat is in the tree.

There is not a black and white cat up in the tree.

Envelope #3:

Mr. Tibbs will not receive two free clay pots.

If Mr. Tibbs sends for his tomato seeds today, he will receive two free clay pots from the seed company.

Mr. Tibbs didn't send for his tomato seeds today.

Envelope #4:

Each of the fifth-graders in Mr. Black's science class has his own mealworm.

Sandra is a fifth-grader in Mr. Black's class.

Sandra doesn't have her own mealworm.

Envelope #5:

Wilson High will have a female on its varsity team.

If Martha makes the basketball team, she will be the first female to play varsity basketball at Wilson High.

Martha made the basketball team.

1. Materials: Commercials, paper, pencils.

Procedure: Explain that many commercials are syllogisms. Also explain that many times commercials imply conclusions that really cannot be made about their products, based on the information given.

Ask individual students to present the commercials to the class. (The commercials may be assigned in advance, allowing the students time to prepare and present the commercials with costumes or props. Two or three students may work together on a single commercial.)

After each commercial is presented, the class identifies the major and minor premises, the sequence of events described in the major premise, the event stated in the minor premise, and whether the conclusion is right, wrong, or could be either right or wrong. Remind the students of the rules that help determine whether a conclusion is right, wrong, or could be either right or wrong.

The class should be encouraged to generate or collect and perform their own commercials.

Commercials:

Here it is! John Mash's latest hit. If you buy this fantastic record from us, you will get if for only $3.95. Joe Track just bought this record for $3.95.

Conclusion implied: Joe Track bought the record from us.

If you like peanut butter, you'll love Dreamie Creamies. Snoopy Seals likes peanut butter.

Conclusion implied: Snoopy Seals will love Dreamie Creamies.

All soaps made by Pink Company have skin conditioners in them. Actress Lila Treyler uses a soap with a skin conditioner in it.

Conclusion implied: Lila uses soaps made by Pink Company.

Hi, my name is Maureen O'Shay. If you used Squeaky soap, you would have soft, pretty skin. I have soft, pretty skin.

Conclusion: Maureen O'Shay uses Squeaky soap.

When you brush your teeth with Pride toothpaste, you will have teeth that turn girls on. I have teeth that turn girls on.

Conclusion implied: I brush with Pride toothpaste.

When my dad shaves with Brayco shaving cream, he always gets a close, clean shave. This morning my dad didn't get a clean, close shave. Boy! Was he angry!

Conclusion implied: He didn't shave with Brayco this morning.

I'm here to talk to you about hair - beautiful hair. When you use Cleany shampoo, you will have beautiful hair. My friend, Ursula, uses Cleany shampoo.

Conclusion implied: Ursula has beautiful hair.

Answers:

John Mash: Major premise: If you buy this fantastic record from us, you will get it for only $3.95; minor premise: Joe Track just bought this record for $3.95; the minor premise says the second event happened; could be either right or wrong.

Dreamie Creamies: Major premise: If you like peanut butter, you'll love Dreamie Creamies; minor premise: Snoopy Seals likes peanut butter; the minor premise says the first event happened; right.

Pink Company: Major premise: All soaps made by Pink Company have skin conditioners in them; minor premise: Actress Lila Treyler uses a soap with a skin conditioner in it; the minor premise says the second event happened; could be either right or wrong.

Squeaky Soap: Major premise: If you use Squeaky soap, you would have soft, pretty skin; minor premise: I have soft, pretty skin; the minor premise says the second event happened; could be either right or wrong.

Pride Toothpaste: Major premise: When you brush your teeth with Pride toothpaste you will have teeth that turn girls on; minor premise: I have teeth that turn girls on; the minor premise says the second event happened; could be either right or wrong.

Brayco Shaving Cream: Major premise: When my dad shaves with Brayco shaving cream, he always gets a clean, close shave; minor premise: This morning my dad didn't get a clean, close shave; the minor premise says the second event did not happen; right.

Cleany Shampoo: Major premise: When you use Cleany shampoo, you will have beautiful hair; minor premise: My friend, Ursula, uses Cleany shampoo; the minor premise says the first event happened; right.

m. Materials: Advertisements, bulletin board labeled "Syllogistic Selling Board", tacks.

Procedure: The class may bring in advertisements that they find in newspapers and magazines. They analyze the advertisements to determine if the advertisement is a syllogism, and if it is, whether the conclusion being made or implied is right, wrong, or could be either right or wrong. The class may share the advertisements with their classmates and then put the advertisements on the board under the appropriate heading: Conclusion: Right; Conclusion: Wrong; Conclusion: Could Be Either Right or Wrong.

n. Materials: Editorials, news clippings, bulletin board, tacks.
Procedure: The class may bring in editorials or news clippings of speeches or political statements. The class should analyze the clippings to determine whether any of the arguments are actually syllogisms, and if they are, whether the conclusions being made or implied are right, wrong, or meaningless (could be either right or wrong). The class may share their findings with their classmates and then put the clippings on the board for all to see.

o. Materials: Worksheets 13, 14 and 15; pencils.
Procedure: Do the example with the students. They may do the worksheets independently. The answers should be discussed.
Answers: Example, right; 1. wrong; 2. wrong; 3. either right or wrong; 4. either right or wrong; 5. either right or wrong; 6. either right or wrong; 7. wrong; 8. right.

p. Additional syllogisms to be used in teacher-designed activities:
If Phil has homework tonight, he won't be able to watch the Stars play basketball at the auditorium. Phil has homework tonight.

Phil will not see the Stars play basketball at the auditorium tonight. (right)

If you like peanut butter, you'll like Skippy. Bill likes peanut butter.

Bill will like Skippy. (right)

If Jill falls down the hill, Jack will come tumbling after. Jill fell down the hill.

Jack stayed up on the top of the hill. (wrong)

If Humpty Dumpty climbs up and sits on the wall, he will fall. Humpty Dumpty has had a great fall.

Humpty Dumpty climbed up and sat on a wall. (could be either right or wrong)

If all of the factories put smog control filters on their chimneys, air pollution will be cut 20%. Air pollution has been cut by 20%.

All of the factories put smog control filters on their chimneys. (could be either right or wrong)

I take good care of my plants. Whenever I re-pot my plants, I add fertilizer to the soil. I just added fertilizer to the soil of my rubber plant.

I just re-potted my rubber plant. (could be either right or wrong)

Fisct, Inc., specializes in rug cleaning. All of my rug cleaning is done by Fisct, Inc. This red rug belongs to my neighbor.

This red rug will be cleaned by Fisct. (could be either right or wrong)

When Mrs. Tate visits her mother, Eric, her son, goes to Camp Wekunda. Eric in not at Camp Wekunda.

Mrs. Tate is visiting her mother. (wrong)

When John's cat is in the treehouse, the mice run around in the basement. John's cat is not in the treehouse.

The mice are not running around in the basement. (could be either right or wrong)

All of Jeff's small tanks contain only orange fish. Minnie, Jeff's newest fish, is purple. He thinks Minnie is one of his prettiest fishes.

Minnie is in one of Jeff's small tanks. (wrong)

Every night, at quitting time, the traffic by John's house is heavy. Now there is heavy traffic by John's house.

It is not quitting time downtown. (could be either right or wrong)

When the fire alarm rings, the children go outside. The children are in their classroom.

The fire alarm didn't ring. (right)

Ralph has a baseball card collection. All of his baseball cards are Ortonville Owls. Last week Ralph added pitcher Nathan Anderson to his card collection.

Nathan Anderson is an Ortonville Owl. (right)

The Rocks and the Goats are tied for the league lead with one game to play. If the Goats lose the league title, their manager will not get a contract for next year. The Goats beat the Rocks in the last game of the season.

Joe Martin will not get a contract for next year. (could be either right or wrong)

If Janna's dad watches the Sunday football game, Janna can't practice her flugelhorn. Janna did not practice her flugelhorn on Sunday.

Janna's dad watched the Sunday football game. (could be either right or wrong)

When Sue makes a sandwich, she only makes half. Sue is eating a whole peanut butter and jam sandwich.

She is eating a sandwich someone else made. (right)

The day after it rains, Jane and Jim go fishing in the creek. It did not rain last night.

Jane and Jim will not go fishing today. (could be either right or wrong)

Every Saturday afternoon Jim takes his dog to the park. Jim and his dog played in the yard all this afternoon. The dog likes to run in the grass.

Today is not Saturday. (right)

When Martin delivers newspapers he gets up at four in the morning. This morning Martin got up at four.

Martin did not deliver papers this morning. (could be either right or wrong)

TRANSPARENCY 1

I have here a glass of water and some red food coloring. If I put red food coloring in the glass of water, the water will turn red.

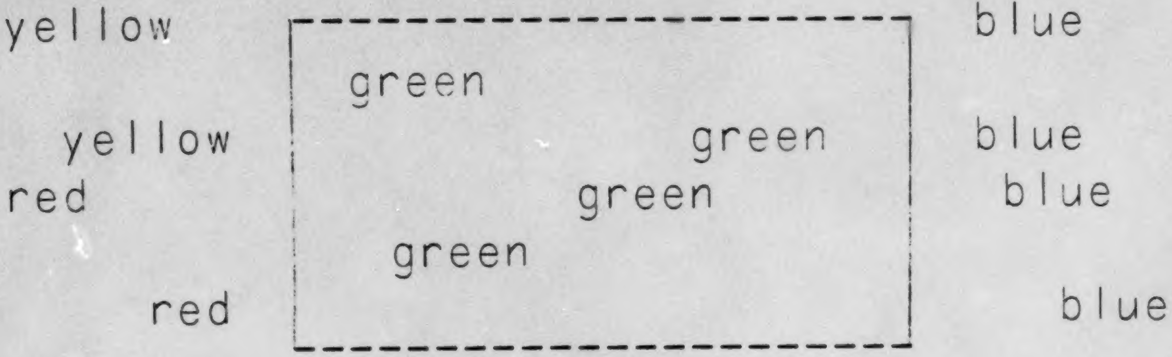
I put red food coloring in the water.

The water is red.

TRANSPARENCY 2

All of the green chairs are in Miss Riley's room.

Miss Riley's Room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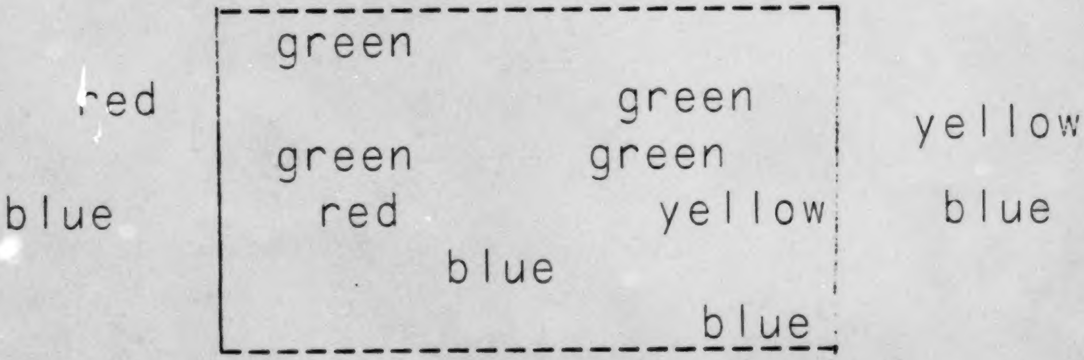
Miss Riley's Room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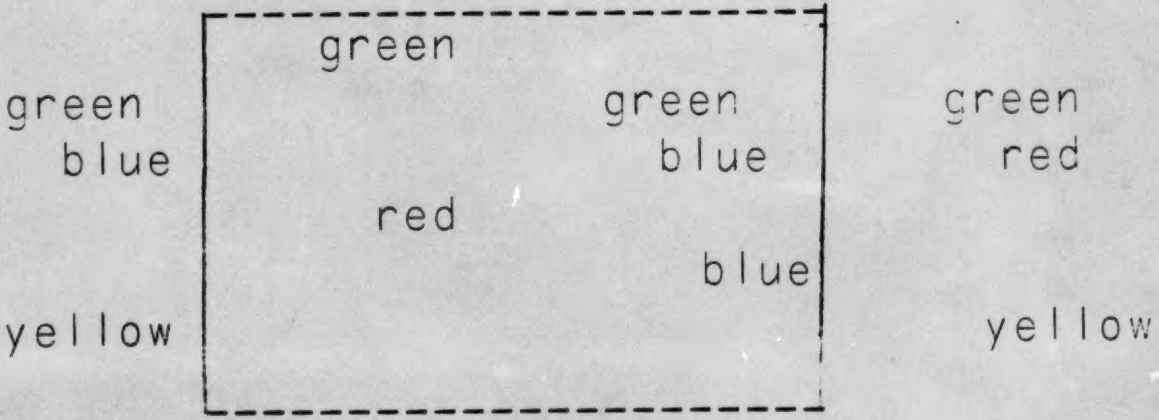
Miss Riley's Room


green
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yellow
yellow

GAMEBOARD 1

When it's hot in the
apartment, Frank sleeps
on a mattress on the
roof.

I

The minor premise says the first event in the major premise happened.

II

The minor premise says the first event in the major premise did not happen.

III

The minor premise says the second event in the major premise happened.

IV.

The minor premise says the second event in the major premise did not happen.

TRANSPARENCY 3

1. When John goes to camp, he goes by bus. John is on a bus right now. It just went through a tunnel in the mountains.

   John is going to camp.

right	wrong	could be either right or wrong
○	○	○

2. Whenever Jane goes on a diet, she drinks diet 7-up.

   Jane isn't on a diet.

   Jane isn't drinking diet 7-up.

right	wrong	could be either right or wrong
○	○	○

3. Allen always cleans his hamster's cage in the garage.

   Allen is in the garage.

   He is cleaning his hamster's cage.

right	wrong	could be either right or wrong
○	○	○

TRANSPARENCY 4

1. Every time after I give my dog a bath, he rolls in the dirt. I just gave my dog a bath.
   He rolled in the dirt.

   could be either
   right ○ wrong ○ right or wrong ○

2. Every time after I give my dog a bath, he rolls in the dirt. My dog didn't roll in the dirt.
   I gave my dog a bath.

   could be either
   right ○ wrong ○ right or wrong ○

3. Every time after I give my dog a bath, he rolls in the dirt. I didn't give my dog a bath.
   He rolled in the dirt.

   could be either
   right ○ wrong ○ right or wrong ○

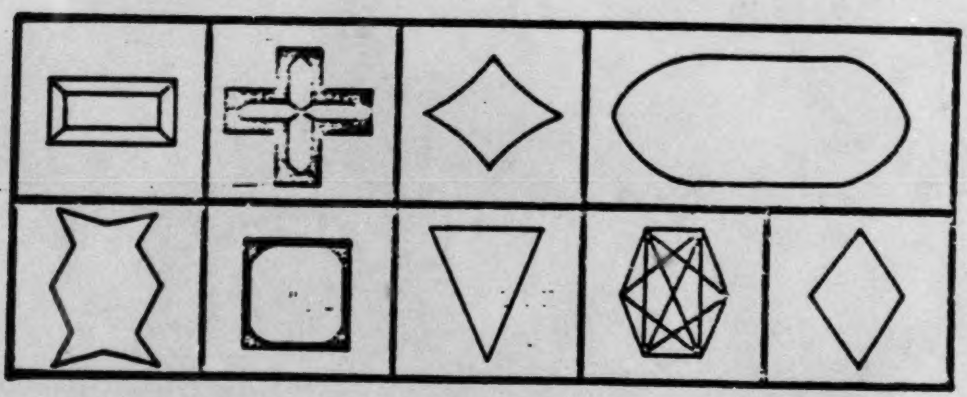
TRANSPARENCY 5

All of the rocks in Jim's collection are considered gems. The largest rock in Jim's collection is a piece of jasper.

Jim's piece of jasper is a gem.

right	wrong	could be either right or wrong
○	○	○

Jim's rock collection



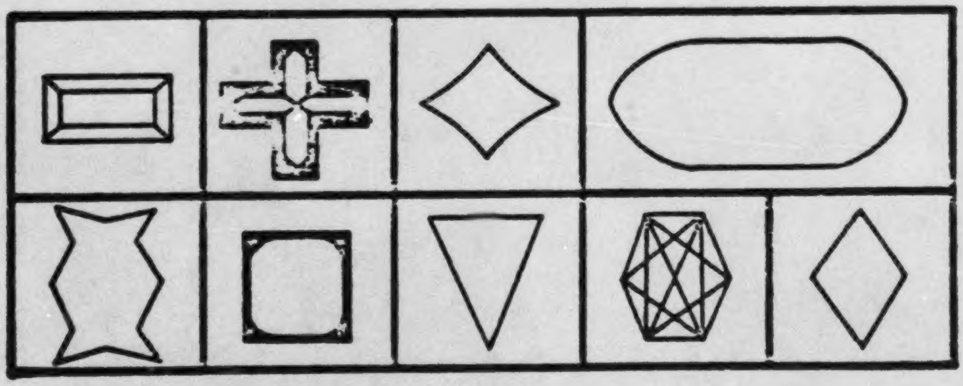
TRANSPARENCY 6

All of the rocks in Jim's collection are considered gems. Diamonds are considered gems.

Jim's collection contains a diamond.

right ○ wrong ○ could be either right or wrong ○

Jim's rock collection



TRANSPARENCY 7

All the gems in Jim's collection are stone gems. A pearl is not a stone gem. A pearl is made by a mollusk such as an oyster.

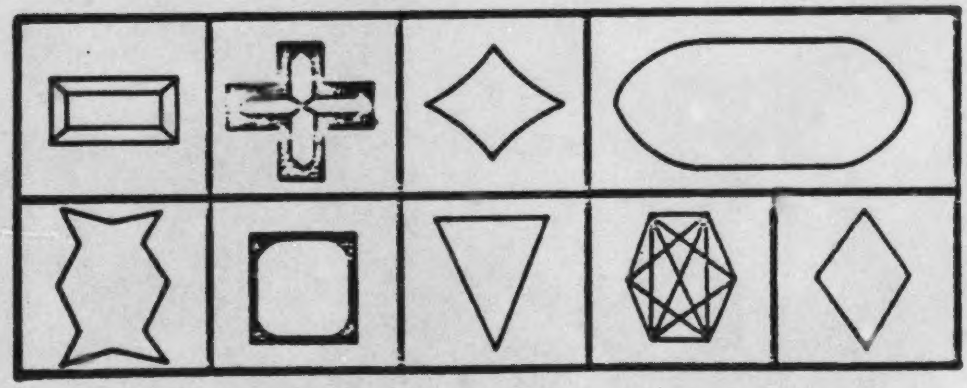
Jim's collection has a pearl in it.

right ○

wrong ○

could be either right or wrong ○

Jim's gem collection



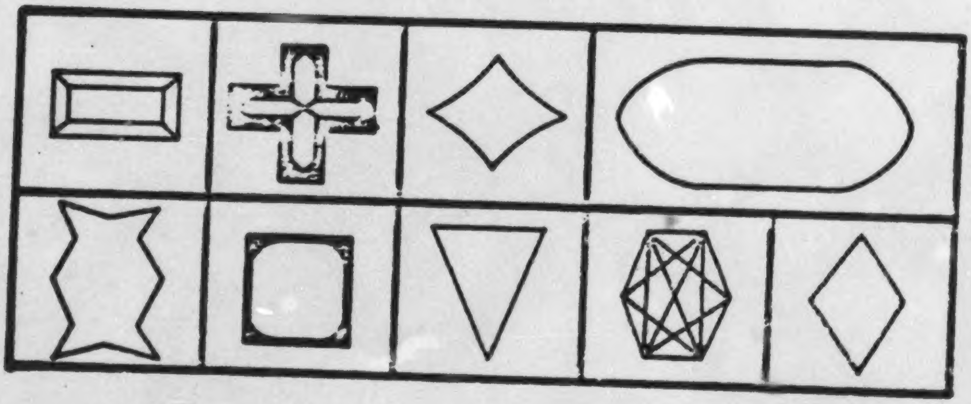
TRANSPARENCY 8

All the gems in Jim's collection are stone gems. This blue gem is not part of Jim's gem collection.

This blue gem is not a stone gem.

right	wrong	could be either right or wrong
○	○	○

Jim's gem collection



GAMEBOARD 2

Syllogisms:

All poodles are animals.
Sully is an animal.
Sully is a poodle.

All poodles are animals.
Sully is not an animal.
Sully is not a poodle.

All poodles are animals.
Sully is a poodle.
Sully is an animal.

All poodles are animals.
Sully is a poodle.
Sully is not an animal.

All poodles are animals.
Sully is not a poodle.
Sully is an animal.

All poodles are animals.
Sully is not an animal.
Sully is a poodle.

Rules:

If the minor premise says the first event happened, and the conclusion says the second event happened, the conclusion is right.

If the minor premise says the first event happened, and the conclusion says the second event didn't happen, the conclusion is wrong.

If the minor premise says the first event did not happen, the conclusion could be right or wrong.

If the minor premise says the second event happened, the conclusion could be right or wrong.

If the minor premise says the second event did not happen, and the conclusion says the first event did not happen, the conclusion is right.

If the minor premise says the second event did not happen, and the conclusion says the first event happened, the conclusion is wrong.

WORKSHEET 1

DIRECTIONS: Read each syllogism. Then decide if the conclusion is right, wrong, or could be either right or wrong. Fill in the circle beside your answer.

Example

Whenever Dan takes Jane to the dance, he buys a corsage. Dan just bought a corsage.

Dan is taking Jane to the dance.

○ right
○ wrong
○ maybe--could be either right or wrong

1. Every Thursday from 4:00 to 5:00 Geraldine practices the piano. It is 4:30 on Thursday.
   Geraldine is watching television.

   ○ right
   ○ wrong
   ○ maybe--could be either right or wrong

2. All of the fifth-grade boys at Bel Air went out for basketball. Jack did not go out for basketball.

   Jack was not a fifth-grade boy at Bel Air.

   ○ right
   ○ wrong
   ○ maybe--could be either right or wrong

3. All of the cattlemen in Mundana dislike sheepherders. Cal is a cattleman in Mundana.
Cal likes sheepherders.

○ right
○ wrong
○ maybe--could be either right or wrong

4. All the horses on Pam's ranch are quarter horses. Silver is a horse on Tom's ranch.
Silver is a quarter horse.

○ right
○ wrong
○ maybe--could be either right or wrong

5. All the scouts in Troop 79 have passed their swimming tests. Bob is a scout in Troop 79.
Bob has passed his swimming test.

○ right
○ wrong
○ maybe--could be either right or wrong

6. All of the homes in Slew City have problems with cockroaches. The Harrid family doesn't live in Slew City.

The Harrid's home doesn't have a cockroach problem.

○ right
○ wrong
○ maybe--could be either right or wrong

W

7. The only people allowed to Ski on Snowy Mountain are professional skiers. Cathy is skiing Tailer Mountain.

Cathy is a professional skier.

○ right
○ wrong
○ maybe--could be either right or wrong

8. If Bill hits the ball, then he will run to first base. Bill did not hit the ball.

Bill is not running to first base.

○ right
○ wrong
○ maybe--could be either right or wrong

9. All tigers are strong. Alfred is strong. He has blue eyes.

Alfred is a man.

○ right
○ wrong
○ maybe--could be either right or wrong

WORKSHEET 2

DIRECTIONS: Cut off the answers on the far right and staple them together as an answer booklet. Then read the problems and answer the questions after each one. After you've answered all the questions, check your work with your answer booklet.

I like maple trees. Whenever I go out walking, I look at trees. I can see a maple tree.

I am out walking.

	ANSWERS
1. What is the major premise? ______________________________ ______________________________	Whenever I go out walking, I look at trees.
2. According to the major premise, what do I do when I go walking? ______________________________	I look at trees.
3. Does the major premise say I always look at trees when I go walking? ______	Yes
4. Does the major premise say I look at trees only when I go walking? ________	No
5. Is it possible that I look at trees on a number of occasions? ________________	Yes

W

6. What is the minor premise? ____________________	I can see a maple tree.
7. According to the minor premise, what do I see? ____________	A maple tree.
8. Could I be looking at the tree from a window, or in a picture book? ______	Yes
9. Then is the conclusion right, wrong, or could it be either right or wrong? ____________________	Either right or wrong.

Every fall, David goes hunting. He hunts with a bow and arrow. David is not hunting this season.

It is not fall.

10. What is the major premise? ____________________ ____________________	Every fall, David goes hunting.
11. According to the major premise, what does David do every fall? ____________________	Goes hunting.

12. Does the major premise say he always goes hunting in the fall?__________	Yes
13. Does the major premise say he goes hunting only in the fall?__________	No
14. Could David go hunting other times of the year?__________	Yes
15. What is the minor premise?__________ __________	David is not hunting this season.
16. According to the minor premise, is David hunting?__________	No
17. If David is not hunting, can it be fall?__________	No
18. Then is the conclusion right, wrong, or could it be either right or wrong? __________	Right

W

All the people who live on Bass Lake have boats. Mr. Tally has a boat. Mr. Tally doesn't live on Bass Lake.

19. What is the major premise? ________________________________ ________________________________	All the people who live on Bass Lake have boats.
20. According to the major premise, what do all people who live on Bass Lake have? ________________________	Boats.
21. Does the major premise say everyone who lives on Bass Lake has a boat? ________________________________	Yes
22. Does the major premise say everyone who has a boat lives on Bass Lake? ________________________________	No
23. What is the minor premise? __________ ________________________________	Mr. Tally has a boat.
24. According to the minor premise, what does Mr. Tally have? ______________	A boat.

25. Could Mr. Tally own a boat and not live on Bass Lake? ______________	Yes
26. Could Mr. Tally own a boat and live on Bass Lake? ______________	Yes
27. Then is the conclusion right, wrong, or, could it be either right or wrong? ______________	Either right or wrong

Every one of the children in Mrs. Frank's class came to school today. Judy is in Mrs. Frank's class.

Judy was not in school today.

28. What is the major premise? ______________	Every one of the children in Mrs. Frank's class came to school today.
29. According to the major premise, what did every one in Mrs. Frank's class do today? ______________	Came to school
30. Does the major premise say everyone in Mrs. Frank's class came to school today? ______________	Yes

W

31. What is the minor premise? ____________ ______________________________	Judy is in Mrs. Frank's class.
32. According to the minor premise, is Judy in Mrs. Frank's class? ____________	Yes
33. If Judy is in Mrs. Frank's class would she have come to school today? ______________________________	Yes
34. Then is the conclusion right, wrong, or could it be either right or wrong? ______________________________	Wrong

Every Monday morning, the milkman leaves a gallon of milk. We prefer skimmed to whole milk. Today is Wednesday.

The milkman left us a gallon of milk this morning.

35. What is the major premise? ____________ ______________________________ ______________________________	Every Monday morning, the milkman leaves a gallon of milk.

W

36. According to the major premise, what does the milkman do every Monday morning? ______________________________	Leaves a gallon of milk
37. Does the major premise say that the milkman leaves a gallon of milk every Monday morning? ____________________	Yes
38. Does the major premise say that the milkman leaves a gallon of milk only on Monday morning? ______________	No
39. Could the milkman leave a gallon of milk on Wednesday, Thursday, or Friday morning? ____________________	Yes
40. What is the minor premise? ____________ ______________________________	Today is Wednesday.
41. According to the minor premise, what day is today? ____________________	Wednesday.
42. Could the milkman have left a gallon of milk this morning? ______________	Yes
43. Then is the conclusion right, wrong, or could it be either right or wrong? ______________________________	Either right or wrong.

TWISTERBOARD

1

If Freddy is a dog,
then he is an animal.
Freddy is a dog.

Freddy is an animal.

2

If Freddy is a dog,
then he is an animal.
Freddy is not a dog.

Freddy is an animal.

3

If Freddy is a dog,
then he is an animal.
Freddy is a dog.

Freddy is not an animal.

4

If Freddy is a dog,
then he is an animal.
Freddy is a dog.

Freddy is a toy soldier.

5

If Freddy is a dog,
then he is an animal.
Freddy is an animal.

Freddy is a dog.

6

If Freddy is a dog,
then he is an animal.
Freddy is not an animal.

Freddy is a dog.

Start—
Stand
Here

Start—
Stand
Here

7

If Freddy is a dog,
then he is an animal.
Freddy is not a dog.

Freddy is not an animal.

8

If Freddy is a dog,
then he is an animal.
Freddy is a poodle.

Freddy is an animal.

9

If Freddy is a dog,
then he is an animal.
Freddy is a toy soldier.

Freddy is not a dog.

10

If Freddy is a dog,
then he is an animal.
Freddy is an animal.

Freddy is not a dog.

11

If Freddy is a dog,
then he is an animal.
Freddy is a toy soldier.

Freddy is a dog.

12

If Freddy is a dog,
then he is an animal.
Freddy is not an animal.

Freddy is not a dog.

WORKSHEET 3

W

1. If Tim can get a raise in his allowance, he will order a new bicycle.
   Tim got a raise in his allowance.
   Tim will order a new bicycle.

2. When Fred works on his go-cart he gets his hands greasy. Fred didn't get his hands greasy.
   Fred didn't work on his go-cart.

3. When Fran's diving gear is in the garage, she locks the outside garage door. Fran's outside garage door is locked now.
   Fran's diving gear is in the garage.

4. Paulos imports all of his parrakeets from Brazatina. Carlos bought a parrakeet from Paulo's Pet Shop. It had snow-white tail feathers and sky-blue wings.
   Carlos bought a parrakeet that came from Hawaii.

5. Lonesome Lois lives in Gallow Gulch. If Shane finds his horse, he will ride to Gallow Gulch. Shane did not find his horse.
   Shane did not ride to Gallow Gulch.

6. When Jack goes swimming in the creek, he takes along his old bamboo fishing pole. He can help people get out of the water with his bamboo pole. Jack is going swimming in the creek.
   Jack is taking his old bamboo fishing pole.

7. All the students in Mr. Nelson's science class are making model houses.
   Steve is making a model house.
   Steve is not in Mr. Nelson's science class.

8. Whenever Jim goes to the zoo, he buys a bag of peanuts to feed the elephants. He buys the unsalted kind. Jim didn't go to the zoo.
   Jim bought some peanuts to feed the elephants.

9. Whenever Betty does her homework, she turns the radio on. Betty doesn't have the radio on.
   Betty is doing her homework.

10. Mother keeps her keys in her purse. Whenever Mother goes to the store, she takes her purse. Mother went to the store.

Mother doesn't have her purse.

11. If Ted makes a go-cart, he will race on Kelly's parking lot on Saturday. Ted did not race on Kelly's parking lot on Saturday.
Ted didn't make a go-cart.

12. If Phil has homework Tuesday night, he won't be able to go to the Tuesday night wrestling match. Phil stayed home from the wrestling match Tuesday night.

Phil had homework Tuesday night.

W

WORKSHEET 4

DIRECTIONS: Read the syllogisms. Then decide if the conclusion is right, wrong, or could be either right or wrong. Fill in the circle beside your answer.

Example

Walter knew from his social studies class that all wandering peoples watch their water supplies carefully. Members of the Pihe family don't worry much about having enough water.

The Pihes are not wandering people.

○ right
○ wrong
○ could be either right or wrong

1. When Stan drives his sports car on sunny days, he puts the top down. It's a beautiful sunny day and Stan is driving his sports car.

   Stan's car top is not down.

   ○ right
   ○ wrong
   ○ could be either right or wrong

2. When lightning hits telephone poles, phones in the area do not work. The telephones are working.

   Lightning hit the telephone pole.

   ○ right
   ○ wrong
   ○ could be either right or wrong

3. On school holidays Jane and Joyce practice gymnastics for five hours. Jane and Joyce practiced gymnastics for five hours yesterday.

Yesterday was not a school holiday.

○ right
○ wrong
○ could be either right or wrong

4. If the pond is frozen tonight, Kathy will go skating. She can hardly wait to use the new warming house. Kathy went skating tonight.

The pond is not frozen tonight.

○ right
○ wrong
○ could be either right or wrong

5. John and Jack have been friends for years. When John plays in his tree house, Jack plays with him. Jack is playing with John.

John is not playing in the tree house.

○ right
○ wrong
○ could be either right or wrong

6. John took typing last year and didn't do too well. Since then, whenever he writes a letter, John types it. Last week John didn't write any letters.

Last week John didn't do any typing.

○ right
○ wrong
○ could be either right or wrong

W

7. If witches eat gingerbread, they get rotten teeth. Rotunda, the wicked witch, doesn't have rotten teeth.

Rotunda eats gingerbread.

○ right
○ wrong
○ could be either right or wrong

8. Jane's family lives next door to Bill's family. When Jane plays at Bill's house, she sets up and operates the electric train. Today Jane is not playing with the electric train.

Jane is not playing at Bill's house.

○ right
○ wrong
○ could be either right or wrong

Conclusion

Embedded

in

Context

IV. Background for Teacher

A. Syllogisms in IV involves identifying the correct conclusion to a syllogism when the major and minor premises are embedded in context.

B. Procedure involved in identifying the embedded major and minor premises.

1. The student learns to identify both the parts of a syllogism and their roles in word problems.

    a. Materials: Transparency 1, overhead projector.

    Procedure: Place the transparency on the overhead. Ask the students to identify the major premise, minor premise, and conclusion in this syllogism.

    b. Ask the class to identify the sequence of events in the major premise. Discuss how a minor premise says one of four things about the major premise, either (1) the first event in the major premise happened, or (2) the first event in the major premise didn't happen, or (3) the second event in the major premise happened, or (4) the second event in the major premise didn't happen. The class may identify what the minor premise of the syllogism says.

    c. Discuss how a conclusion is a statement that can be right, or wrong, or either right or wrong at the same time. Explain that by thinking about the sequence of events described in the major premise and by thinking about what the minor premise says, they will be able to say whether a conclusion is right or wrong or either right or wrong at the same time. Discuss the rule that helps determine whether the conclusion is right, wrong, or could be either right or wrong.

    Answers: Major premise: If we get more than six inches of rain in Cooper Canyon, we have serious mud slides; minor premise: We haven't had a serious mud slide in Cooper Canyon for over two weeks; conclusion: We have not had more than six inches of rain in Cooper Canyon in the last two weeks; the minor premise says the second event did not happen; rule: When the minor premise says the second event did not happen, a right conclusion will say the first event did not happen.

2. The student learns to identify a right conclusion when given a syllogism with an embedded major and minor premise.

    a. Materials: Transparency 2, overlays, overhead projector, grease pencil.

Procedure: Place Transparency 2 on the overhead projector. Tell the class to read the syllogism. Ask the class to identify both the major and minor premises and what they say. Place Overlay 1 on the transparency and ask the class if this shows what the major premise says. Ask the class what they know about all the bikes in the race. They should respond that they are all ten-speeds.

Project Overlay 2. Tell the class that they are going to find a conclusion that is right for the major and minor premises given. Discuss why "Jack is riding a ten-speed bike" is the only right conclusion that can be made with the information given.

b. Materials: Chalkboard, chalk.

Procedure: Tell the class that they are going to study some major and minor premises and then think up conclusions that can be made, based on the information given in the premises. Explain that they are only interested in thinking up conclusions that can be made, based on the information given in the premises. Review the rules that are helpful in finding right conclusions:

Rule 1:

If the minor premise says the first event in the major premise happened, a right conclusion will say the second event in the major premise happened too.

Rule 2:

If the minor premise says the second event in the major premise did not happen, a right conclusion will say the first event in the major premise didn't happen.

Write the following statement on the board: "If he has betrayed his people, Jack must go into isolation. Jack has betrayed his people. Therefore ______________." Ask the class to identify the minor premise and what it says. The class should respond, "Jack has betrayed his people; the first event happened." Ask the class to identify the event that must appear in a right conclusion when the minor premise says the first event happened. The class should respond that the second event happened.

Elicit a right conclusion from the class, and write it on the board. A right conclusion would be "Jack must go into isolation." A discussion of why "Jack must go into isolation" is the correct conclusion that should follow.

Write, "If you are human, then you are judged according to the way humans act. Trixie is not judged by the way humans act. Therefore ______________." The class may work through the syllogism following the procedure described above. Discuss the responses.

WORKSHEET 1

DIRECTIONS: Read the problems and write a conclusion that is right for the information given in the major and minor premises.

REMEMBER

IF THE MINOR PREMISE SAYS THE FIRST EVENT IN THE MAJOR PREMISE HAPPENED, A RIGHT CONCLUSION WILL SAY THE SECOND EVENT IN THE MAJOR PREMISE HAPPENED

REMEMBER

IF THE MINOR PREMISE SAYS THE SECOND EVENT IN THE MAJOR PREMISE DID NOT HAPPEN, A RIGHT CONCLUSION WILL SAY THE FIRST EVENT IN THE MAJOR PREMISE DID NOT HAPPEN.

1. The red house is on First Street. All the houses on First Street were designed by Frank Smith. Therefore ______________________________

   ____

   ____

2. Gail is swimming in the public pool. When she swims in the public pool, Gail wears a swimming cap. Therefore ______________________

   ____

   ____

3. If they don't have enough trees, the people of Haig may be forced to carry groceries in synthetic bags. There are very few trees left in Haig. Therefore ______________________________________

   ____

   ____

W

4. Every afternoon at exactly 1:00, 3:00, and 5:00, the city bus drives past Tim's house. It is exactly 1:00 in the afternoon. Therefore ____________

____

____

5. The entire Chanly Building has been insulated with insulation manufactured by the Watson Company. The Chanly Building president just found out that all the insulation made by the Watson Company is highly flammable. Therefore ____

____

6. If I don't get to their house on time, they will leave without me. They did not leave without me. Therefore ________________________________

____

7. If it had snowed any more, the streets would be dangerous. The streets are not dangerous. Therefore ______________________________________

____

8. Something was wrong with the car. Mark said, "If one of the tires is flat, I'll have to walk all the way back to the service station." Mark didn't walk all the way back to the service station. Therefore __________

____

9. Whenever I think of dill pickles and lemon, my mouth waters. My mouth is not watering. Therefore ______________________________

____

10. Fran is a terrific hitter. However, whenever she comes up to bat, she gets butterflies in her stomach. Fran doesn't have butterflies in her stomach. Therefore ______________________________

____

Answers: Major premise: If you are human, then you are judged according to the way humans act; the minor premise says that the second event did not happen; a right conclusion will say the first event did not happen: Trixie is not human.

c. Materials: Worksheets 1, 2 and 3; pencils.

Procedure: The class may do the worksheets independently. The answers should be discussed.

Answers (wording may vary):

1. The red house was designed by Frank Smith.
2. Gail is wearing a swimming cap.
3. The people of Haig may be forced to carry groceries in synthetic bags.
4. The city bus is driving past Tim's house.
5. The Chanly Building has insulation that is highly flammable.
6. I did get to their house on time.
7. It didn't snow any more.
8. One of the tires wasn't flat.
9. I'm not thinking of dill pickles and lemon.
10. Fran is not up to bat.

d. Materials: Paper, pencils.

Procedure: Tell the class that very often the action of a short story or novel can be summarized in a syllogistic statement: "If __________ does __________, then __________ will happen. If __________ doesn't do __________, then __________ will happen." Discuss some of the stories the class has had in reading and indicate how the action of the story may be summarized in syllogistic form. Ask them to make their next book report in syllogistic form. Encourage them to describe the action in terms of a major premise, a minor premise, and a right conclusion (e.g., a book report for SWISS FAMILY ROBINSON might read, "If the Robinson family lands on an island they will have to learn how to adapt to island life in order to survive. The Robinson family landed on an island. They adapted to island life and survived.") A discussion of how to determine a right conclusion from the premises given should follow. The syllogistic book reports should be displayed and discussed.

e. Materials: Newspapers, magazines, paper, pencils.

Procedure: Assign the class the task of finding an article or story in a newspaper or magazine (it might be advisable to direct them toward the editorials) that is written for the purpose of persuading someone to do something or believe something. Tell the class to underline the major and minor premises and ask them to answer the following questions:

1. Can you state what the writer is trying to do?
2. What arguments does the writer use to prove his position?
3. If the writer states his argument in a syllogism, can you pick out the events described in the major premise and the minor premise, and determine if the conclusion is right, wrong, or indeterminate (can't say whether it's right or wrong)?

After the class has had time to do the above, allow a sharing time during which you write the major and minor premises on the board. Ask the class to generate conclusions that are right for each of the sets of major and minor premises on the board. Discuss the conclusions generated. Ask the class to review the articles or clippings from which the original premises were extracted, to determine whether the conclusions implied or stated in the articles were right, wrong, or meaningless (could be either right or wrong.)

f. Materials: Transparency 3, overhead projector, Worksheets 4 and 5, pencils.

Procedure: Explain that often a syllogism may be found in a longer passage and that sometimes we have to look carefully to establish whether a syllogistic argument is used and then determine what conclusions can be made. Read the transparency. Tell the class that they must select the conclusion that is right from the group of possible conclusions.

Remind them to find the major premise first, "All the people living in East America are 200 or more years old." Then find the minor premise and what it says, "Stan Smith has made his home in northern East America for 110 years and enjoys it there (says the first event happened)." Ask the students which event must follow in a right conclusion when the first event happened in the minor premise. The class should respond that the second event must happen.

Ask the class whether "Stan Smith's granddaughter will move to East America" says the second event happened. The class should respond that it does not. Ask if "Stan Smith's granddaughter is 100 years old" says the second event happened. The class should respond that it does not. Ask if "Stan Smith wants to move to Afrasia" says the second event happened. The class should respond that it does not.

Finally, ask if "Stan Smith is over 200 years old" says the second event happened, and the class should respond that it does. Emphasize that number 4 is the only conclusion that can be made based on the premises given. Stress that numbers 1 and 3 may be right, but given the information in the premises, we can only say number 4 for sure. Point out that number 2 is wrong, given the information in the story that the granddaughter qualified to live in East America.

The class may do the worksheets independently. The answers should be discussed. Stress that they are to select the right conclusion that can be made based on the information given in the premises.

Answers:

1. Within two weeks, all the parts were learned and rehearsals began; Mack had the lead part in the play; B.
2. The only machines made by the Strong Manufacturing Company were snowblowers; Daryl was changing oil on a machine made by the Strong Manufacturing Company; C.
3. A week ago last Monday, the Magi City council made a ruling that anyone driving or working on any of the city's vehicles had to wear a clean uniform to work each day; Jack works as a garbage collector for Magi City; B.
4. When he graduates, he will move to Big Pine, Montana, without his family; Pete's dad has not moved to Big Pine yet; A.

g. Materials: Paper, pencils.

Procedure: It may be appropriate to introduce the students to formal debate at this time and engage in follow-up activities in the classroom. The primary reason for this activity, is to have the students watch for the use of syllogistic statements and syllogistic reasoning. Before the debate begins, provide each student with paper, and instruct them to write down any syllogistic statements that the debators make during the debate. Remind the class to listen carefully for major and minor premises. After the debate, the students may share their syllogisms with the class. Right conclusions that can be made with the information given should be identified and discussed.

h. **Materials:** Gameboards 1, 2 and 3, enlarged and laminated to colored cardboard; felt tip marker.

Procedure: The student reads the syllogisms on the gameboards and writes the answers to the questions with the felt tip marker. He may check and discuss his answers with you. Stress that a right conclusion can only be made with specific information given in the paragraph or syllogism. Review the conditions under which a conclusion will be right.

Answers: Gameboard 1: 1. *, △, ☺; 2. *; 3. yes.
Gameboard 2: 1. ☹, △; 2. △; 3. yes.
Gameboard 3: 1. ☹, △; 2. no; 3. no.

i. **Materials:** Gameboard 4, laminated to colored cardboard; syllogisms recorded on index card; felt tip marker.

Procedure: Read the four syllogisms and then work the crossword puzzle, referring to the syllogism cards as needed. The responses should be checked and discussed.

Answers:

Across

1. chewing gum
6. second event did not happen
8. lose books
9. first event happened
10. first event happened

Down

2. hurts hand
3. not chewed gum
4. made one more stop
5. late for work
7. pay for books

Syllogisms:

1. Whenever I chew gum, my back molar throbs with pain. It's the sugar that makes it hurt. My back molar doesn't hurt today.
2. Whenever he uses his broken stapler, Mr. Tack, my teacher, hurts his hand. Mr. Tack used the broken stapler this morning.

3. At 9:00 a.m. I said, "If we make one more stop, I will be late for work!" At 9:10 a.m., we stopped for a long train.
4. The librarian has a sign posted in the library that says if we lose our library books, we must pay for them. I have lost one of my library books.

j. Materials: Tagboard, pens, glue, newspapers, magazines.
Procedure: The class may make posters of candidates for a political office, starting with the caption, "If elected, I will ______________." Posters may include pictures, newspaper headlines, bumper stickers, etc. The class should use actual statements made by the candidates or their campaign committees. (Note: The activity may lend itself to a follow-up mock election. The primary reason for the activity however, is to see how campaign promises are often stated in syllogistic form. Though this activity may be particularly suited for presidential elections, it may be used for elections involving governors, state legislators, mayors, etc.)

The posters should be displayed and syllogisms formed from the major premises stated. Discuss the implications of various minor premises. Review the right conclusions that follow specific minor premises:

> If the minor premise says the first event happened, a right conclusion will say the second event happened.
>
> If the minor premise says the second event did not happen, a right conclusion will say the first event didn't happen.

k. Materials: Newspapers, news magazines, colored cardboard, glue, felt tip markers.
Procedure: Find syllogistic news headlines. Generate appropriate minor premises and then find three or four pictured conclusions. (One - a right conclusion for the premises given, one - a wrong conclusion, and one - a conclusion that seems logical, but not right for the premises given.) Glue and laminate the premises and pictures to the colored cardboard.

Sample:

If the U.S. can't get supplies into Uruguay soon, the people there will starve. The latest bulletin reveals that the U.S. will not be able to get supplies into Uruguay for quite a while.

Place an X on the right conclusion for the premises given.

picture of people eating at table	picture of people praying	picture of starving people

The student may read the major and minor premises and select the picture of the right conclusion for the premises given. Point out that sometimes a conclusion may seem right, but it is not right for the information given in the premises. Discuss the rules for determining right conclusions.

Answer for sample: Picture of starving people.

l. Materials: Worksheets 6, 7 and 8; pencils.

Procedure: Do the example with the children. The class may do the worksheets independently. The answers should be discussed.

Answers: Example, c; 1. a; 2. c; 3. c; 4. b; 5. b; 6. b; 7. c; 8. a; 9. a; 10. b.

m. Additional syllogisms to be used in teacher-designed activities:

1. Bernie read in the paper that food was scarce for fish so they were really biting. Bernie said if he got a chance to go to Pine Lake he would go fishing. Later that week, Bernie went to Pine Lake.

   Right conclusion: Bernie went fishing.

2. Bertha loves anything made with ice cream, but most of all she loves banana splits. If Bertha is going to make a banana split, she must have chocolate and strawberry toppings, ice cream, and a banana. Tonight Bertha did not have chocolate and strawberry toppings, ice cream, and a banana.

   Right conclusion: Bertha did not make a banana split tonight.

3. Gene was furious at the cheap construction he found in his Speedo bicycle. He claimed that if it broke down one

more time he would buy roller skates. Early the next spring Mr. Klark did not sell Gene any roller skates. Mr. Klark had the only skates in town.

Right conclusion: Gene's bike did not break down one more time.

4. After night had settled in, Jack went down to the pier on the river. He knew that if he could get his flashlight to work he would be able to see many kinds of fish. Last night it hadn't worked. "Ha!" he exclaimed, as the beam suddenly flashed brightly.

Right conclusion: Jack was able to see the fish.

5. Wexburg found that Sta-Tred tires were the cheapest and best buy for the city's machines. On all the city dump trucks they put Sta-Tread tires. Mack, the city engineer, has driven one of the city's dump trucks.

Right conclusion: Mack has tried Sta-Tread tires.

6. Ava developed an interest in trees because she had quite a few varieties in her back yard. Some were very rare. When her family went on their hikes through the park, she enjoyed collecting leaf samples. The following week Ava's family went for a hike through the park.

Right conclusion: Ava collected leaf samples on the hike.

7. Nick likes to eat a lot of candy. But if Nick has a toothache, he goes to the dentist. The dentist has an office at the top of the tallest building in the city. Today Nick did not go to the dentist.

Right conclusion: Nick did not have a toothache today.

8. Since Mike has been small, he has always liked little bugs that crawl and have wings. He spends a lot of time studying these creatures. When he is visiting relatives who live on a farm, he enjoys catching different kinds of bugs. Yesterday Mike was visiting the farm.

Right conclusion: Mike tried to catch bugs yesterday.

9. Casey had a wild imagination. He thought he could determine how many stars were in the sky. Casey vowed that if he climbed to the top of Baldy Mountain this summer he would count all the planets and suns. But Casey didn't try to count all the planets and suns this summer.

Right conclusion: Casey didn't climb to the top of Baldy Mountain this summer.

10. Many of the people in this state are farmers. Farmers' children must help with farm work. In Jackson County, when harvesting begins, school is called off for at least a week. School has not been called off this year in Jackson County.

Right conclusion: Harvesting has not begun in Jackson County yet.

11. I really like my grandmother. But if my grandmother comes to visit us, I will have to sleep with my brother. I don't like to sleep with my brother. My grandmother is coming for a visit Friday.

Right conclusion: Friday I will have to sleep with my brother.

12. Every time people have dived into the shallow water at Gulver Gulch, they have come up with scraped elbows and foreheads. George doesn't have a scraped elbow or forehead today.

Right conclusion: George hasn't dived into the shallow water at Gulver Gulch today.

13. Every morning Margaret Tilt waits at the door and smiles at me when I walk into school. I like Margaret but I wish she'd leave me alone. It is Tuesday morning.

Right conclusion: Margaret was at the door and smiled at me today.

14. On the mornings that I'm late for school, I don't have to make my bed. I had to make my bed this morning. I hate to make my bed. I'll do almost anything to get out of making my bed.

Right conclusion: I wasn't last for school this morning.

15. If I get my schoolwork done, I can watch one television program at night. I usually watch Skylab II at 8:30 p.m. I didn't get to watch a TV program tonight.

Right conclusion: I didn't get my schoolwork done tonight

16. All of Joy's toys are made of rubber. Rubber toys are good to chew on. It helps gums feel better. This toy boat is made out of plastic.

Right conclusion: The toy boat is not Joy's.

17. All of the men in the Sleuder family prepared the Thanksgiving dinner. Josh is one of the men in the Sleuder family. He is blond, 5'2", and very nice.

Right conclusion: Josh helped prepare the Thanksgiving dinner.

18. Every morning the milkman leaves us a quart of milk. It is Friday morning. We're out of cream. We also need cottage cheese.

Right conclusion: The milkman has left us a quart of milk this morning.

19. On each of her spelling tests for the past year, Martha has had three wrong. This is a copy of one of Martha's spelling tests from this past year. Most of the words Martha knew.

Right conclusion: It has three wrong.

20. Adam found out that the bicycle he wanted was made in England. The store owner told him that the metal used in making all English bikes comes from the United States. Peter has an English bike.

Right conclusion: Peter's bike is made from U.S. metal.

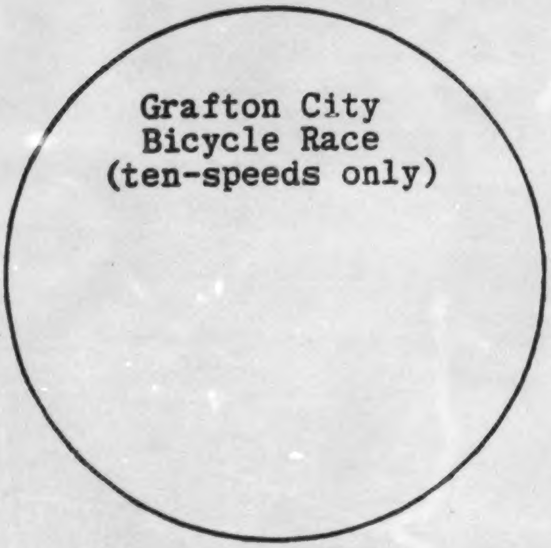
TRANSPARENCY 1

If we get more than six inches of rain in Cooper Canyon, we have serious mud slides. We haven't had a serious mud slide in Cooper Canyon for over two weeks.

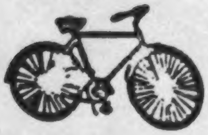
We have not had more than six inches of rain in Cooper Canyon in the last two weeks.

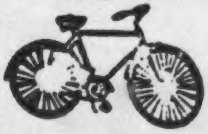
TRANSPARENCY 2

All the bikes in the Grafton City Bicycle Race are ten-speeds. Jack is riding a bike in the Grafton City Bicycle Race. Phil has a bike, but he is watching the race, not riding in it.


Grafton City
Bicycle Race
(ten-speeds only)

TRANSPARENCY 2 - OVERLAY 1





TRANSPARENCY 2 - OVERLAY 2

Phil has a ten-speed bike.
Jack is riding a ten-speed bike.
Jack is riding a three-speed bike.

TRANSPARENCY 3

The year A.D. 2794 has its advantages for man. As an example we can take the northern part of East America--you will recall that the tremendous earthquakes of 2175 caused the relocation of all the land masses on Earth. East America was set aside as an area for the aged. All the people living in East America are 200 or more years old. Stan Smith has made his home in northern East America for 110 years and enjoys it there. His granddaughter, though qualified to live in East America also, prefers the faster pace of life we associate with Afrasia.

Select the right conclusion.

______ 1. Stan Smith's granddaughter will move to East America.

______ 2. Stan Smith's granddaughter is 100 years old.

______ 3. Stan Smith wants to move to Afrasia.

______ 4. Stan Smith is over 200 years old.

WORKSHEET 3

DIRECTIONS: Read the stories. Draw one line under the major premise and two lines under the minor premise for each story. Then place an X on the line in front of the right conclusion that can be made based on the premises given in each story.

1. Cheryl and Manuel had written a play. Mack had the lead part in the play. Within two weeks, all the parts were learned and rehearsals began. In another two weeks the play was ready for the big performance. It was a thrill for the whole cast. They took their bows amidst all the cheering and clapping.

_____ A. Mack did not have a part in the play.

_____ B. Mack learned his part within two weeks.

_____ C. Mack was sad when the audience applauded.

_____ D. Manuel started to write another play.

2. The only machines made by the Strong Manufacturing Company were snowblowers. Daryl was changing oil on a machine made by the Strong Manufacturing Company. Daryl's neighbor walked by and commented that the weather had been rather unpleasant. Daryl agreed and went in to get more clothes on.

_____ A. Daryl liked changing oil.

_____ B. Daryl was changing oil on a lawnmower.

_____ C. Daryl was changing oil on a snowblower.

_____ D. Daryl did not like changing oil.

W

3. Jack works as a garbage collector for Magi City. A week ago last Monday, the Magi City council made a ruling that anyone driving or working on any of the city's vehicles had to wear a clean uniform to work each day. The regulation went into effect the next day. Although some of the men thought it silly to wear clean clothes for some of their jobs, all of the men agreed to.

_____ A. Jack enjoyed working for the city.

_____ B. Jack wore a clean uniform when he left for work yesterday.

_____ C. Jack thought it was silly for garbage collectors to wear clean uniforms every day.

_____ D. Jack quit his garbage-collecting job last Wednesday.

4. Pete Smith's dad is going to school to become a forest ranger. When he graduates, he will move to Big Pine, Montana, without his family. Mr. Smith's first duty will be making sure all the small equipment, such as shovels and axes, is kept ready for emergencies. Mr. Smith's specialty is diseases and infections of trees. In about a year he will be working at that job and his family will then come out. But first he will spend a year learning a little about many of the different jobs forest rangers have, so that he will be more ready to handle the unforeseen. Pete's dad has not moved to Big Pine yet.

____ A. Pete Smith's dad has not graduated yet.

____ B. Mr. Smith's first job will be checking some infected trees.

____ C. Mr. Smith's job in Big Pine will be working in a hardware store.

____ D. Pete Smith did not become a forest ranger.

GAMEBOARD 1

DIRECTIONS: Read the syllogism. The sentences in the syllogism have been labeled □ , △ , ☺ , etc. Use the labels to answer the questions which follow each problem.

All of the things Jim did in home economics class were difficult for him. □ He had had no experience at home of making pancakes, or roasting meat, or mashing potatoes. △ All of these things he had now done in home economics. ☺ Every day Jim made something new. ✳ You should have seen what happened the first time he put the mixing machine beaters in a cake mix! ❗ There was cake mix from wall to wall. Jim made pancakes in his home economics class.

Conclusion: Making pancakes was difficult for Jim.

1. At least three of the sentences in the paragraph can be the major premise of a syllogism. Identify those three sentences.

   ____

2. Only one of the three possible major premises can be the major premise of this syllogism. Which is it?

   ____

3. Is the conclusion right? ______________________________

GAMEBOARD 2

DIRECTIONS: Read the syllogism. The sentences in the syllogism have been labeled ☺, ‡, △, etc. Use the labels to answer the questions which follow each problem.

☺ Marilyn and Pat were the only girls who entered their cars in Class C of the Pinewood Derby. ‡ It was the big event of the year for cars this size. △ All entries for the Class C event could not be more than one pound in weight, or more than one foot in length. George's car weighed two pounds and was more than a foot long.

Conclusion: George's car was not in the Class C race.

1. At least two of the sentences in the paragraph above can be the major premise of a syllogism. Identify these sentences.

   ____

2. Only one of the two possible major premises can be the major premise of this syllogism.
   Which is it? ____________________________

3. Is the conclusion right? ____________________________

GAMEBOARD 3

DIRECTIONS: Read the syllogism. The sentences in the syllogism have been labeled ☺, ‡, △ , etc. Use the labels to answer the questions which follow each problem.

☺ Marilyn and Pat were the only girls who entered their cars in Class C of the Pinewood Derby. ‡ It was the big event for cars this size.
△ All entries for the Class C event could not be more than one pound in weight, or more than one foot in length. The red car is an entry in the Class C event.

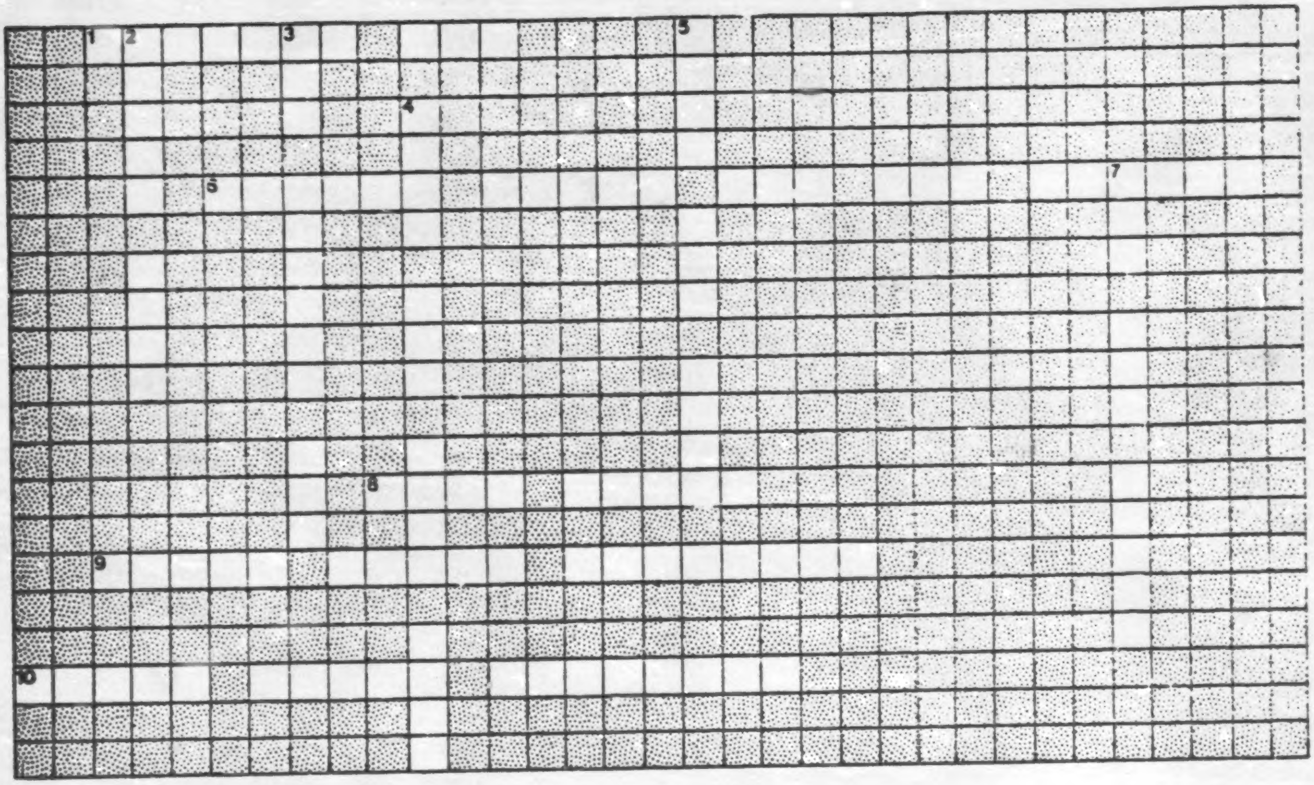
Conclusion: The red car gets good gas mileage.

1. At least two of the sentences in the paragraph above can be the major premise of a syllogism. Identify these sentences. ____________________

2. If ☺ were the major premise of this syllogism, would the conclusion be right? ____________________

3. If △ were the major premise of this syllogism, would the conclusion be right? ____________________

GAMEBOARD 4



Clues

Across

1. the first event in the major premise for syllogism 1

6. what the minor premise says in syllogism 1

8. the first event in the major premise for syllogism 4

9. what the minor premise says in syllogism 2

10. what the minor premise says in syllogism 4

Down

2. the second event in the major premise for syllogism 2

3. right conclusion for syllogism 1

4. the first event in the major premise for syllogism 3

5. right conclusion for syllogism 3

7. right conclusion for syllogism 4

WORKSHEET 4

DIRECTIONS: Read each paragraph. Then decide which statement is a conclusion that can be made with the information given. Fill in the circle next to the right conclusion for each paragraph.

Example

In Robert E. Lee School, all children study government. Every year during the first week in May, the eighth-grade class spends a week studying government at the State Capitol. Right now the eighth-grade class is not studying government at the State Capitol. The weather is warm and the cherry trees are in blossom at the Capitol.

ⓐ It is the first week in May.

ⓑ The sixth-grade class is at the State Capitol.

ⓒ It is not the first week in May.

ⓓ The eighth-grade will not go to the Capitol this year.

---

1. Even though Bill lives quite a way from school, he still prefers eating lunch at home rather than having hot lunch at school. Every school day, Bill pedals his bike home at noon, which is a round trip of five miles. Today is the first full school day.

   ⓐ Bill rode home at noon.
   ⓑ Bill ate lunch with his friends.
   ⓒ Bill ate lunch with his mother.
   ⓓ Bill had hot dogs in the cafeteria.

2. The other day Josie found out that all Kigge sunglasses are made with Beno's plastic. The plastic is not supposed to shatter when it's cracked. Josie learned that Ellen's sunglasses were not made of Beno's plastic.

   ⓐ Josie bought a pair of Kigge sunglasses.
   ⓑ Ellen's sunglasses shattered.
   ⓒ Ellen did not have a pair of Kigge sunglasses.
   ⓓ Beno's plastic makes good sunglasses.

V

3. Whenever she is correcting spelling tests, Mrs. Newton uses a red pencil. Last night Mrs. Newton corrected the spelling test for her Unit B. John and Mary are both in Unit B and got a couple of spelling words wrong. Marsha, who is also in Unit B, had six wrong and will have to take the test again.

ⓐ Mrs. Newton did not use her red pencil last night.
ⓑ Marsha is not in Unit B.
ⓒ Marsha's test had red marks on it.
ⓓ John and Mary had no red marks on their test papers.

4. The colors of Jackson School are blue and white. The Glee Club has pep rallies quite often. If they are in the Glee Club, the children wear blue shirts and white pants on Fridays. Alex does not wear a blue shirt and white pants on Fridays.

ⓐ Alex is in the Glee Club.
ⓑ Alex is not in the Glee Club.
ⓒ Alex is on the football squad.
ⓓ Alex can't sing well.

5. Jane was practicing to become a trapeze acrobat. It was her ambition to travel with a circus. All the owners of Barley and Bainem Circus had told Jane that if she were to travel with them, she would have to master a triple somersault. Jane tried hard but she could only do a double somersault.

ⓐ Jane decided not to be a trapeze artist.
ⓑ Jane couldn't go with Barley and Bainem Circus.
ⓒ Jane traveled with the circus this year.
ⓓ By the next year Jane had mastered the triple somersault.

6. The time had come. Zeke had just challenged Quick-Draw McGraw for leadership of the gang. The shoot-out was going to be Saturday. Zeke was worried. Every time he had bad equipment in the past, he lost the match. Two weeks ago, Zeke had faced Blue Barney with a broken trigger on his gun.

ⓐ Zeke beat Blue Barney in their match.
ⓑ Zeke lost the match with Blue Barney.
ⓒ Zeke beat Quick-Draw McGraw to the draw.
ⓓ Zeke did not beat Quick-Draw McGraw to the draw.

W

7. When Piller's private school went broke, all of its buses were given to General Hospital. The buses were used as ambulances. Just before the school closed, it had purchased a brand new orange and white bus.

ⓐ General Hospital got six new ambulances.
ⓑ Shriners Hospital has several new buses.
ⓒ General Hospital has an orange and white bus.
ⓓ General Hospital doesn't have an orange and white bus.

8. Mitzi knew that if she bought a record case made by Recco-Hold, it would be purple and black. She didn't want one just like her sister's either. Mitzi did not buy a purple and black record case.

ⓐ Mitzi's record case is not a Recco-Hold.
ⓑ Mitzi's sister's case is a Recco-Hold.
ⓒ Mitzi's case is blue and white.
ⓓ Mitzi's case is a Recco-Hold.

9. The boys on Jack's team decided they wanted their uniforms to look very different from those of other teams. They got together and on the fronts of all their caps they attached plastic propellers. Once when they were leaving the club room, Jack saw a cap belonging to one of his team members on the bench.

ⓐ Jack saw a cap with a propeller on it on the bench.
ⓑ Jack saw a cap without a propeller.
ⓒ Jack saw a propeller without a cap.
ⓓ There were some propellers left over.

10. Jake reached in the sack and gave every bird in the yard some sunflower seeds. The only thing Jake gave Fifi were some pumpkin seeds. Fifi really liked these seeds.

ⓐ Fifi is a bird in the yard.
ⓑ Fifi is not a bird in the yard.
ⓒ Fifi is Jake's girlfriend.
ⓓ Fifi is the canary in Jake's kitchen.

MATERIALS TO DEVELOP B - 1

Workbook: Economy, THOUGHTVAULT, pp. 182, 201.
Prentice Hall, BE A BETTER READER I, pp. 10, 11.